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LEADING ARTICLES

The Doctor's Declaration of Independence.....G. HENRI BOGART, 107

Larrey.....A. ROSE, 108

Paresis.....HANS SCHAERRER, 110

Joint-Bodies from Within in Articulations Otherwise Apparently Normal.....AIME PAUL HEINECK, 113

EDITORIAL

The A. M. A. Meeting..... 115

The New W. U. Medical School Dedicated..... 115

The Physician and the Garden..... 116

Human Endeavor Sixty Per Cent Wasted..... 116

Medical Miscellany..... 134

Book Reviews..... 118
Cancer: Its Cure and Treatment—Bulkley. Modern Medicine—Osler. Cystoscopy and Urethroscopy—Lewis and Mark. A Medical Dictionary for Nurses—Pope. Progressive Medicine—Hare. A Text-Book of the Practice of Medicine—Hare.

What the Medical Editors Are Saying..... 121
Vesiculectomy in Tuberculosis of the Genitalia—The Prostate—The Probable Prevalence of Venereal Disease.

Notes and Abstracts..... 122
Rapid Relief in Acute Lumbago by Manipulation and Active Movement—Hay Fever—Operations on Diabetics—The "Deathbed of the Tabloids."

THE LABORATORY NEWS.

Laboratory Aids..... 125
Attainment of Absolute Zero—An Improved Method for Testing Urine for Acetone—Unheated Vaccines—Practical Considerations of Blood Cultures.

Medical Memoranda..... 140

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and LABORATORY NEWS

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ORIGINAL

THE DOCTOR'S DECLARATION OF INDEPENDENCE.

G. HENRI BOGART, M. D.

PARIS, ILL.

The war is working a miracle in the cure of mental cataract of the American medical profession, as in the usual run of surgical operations there is present discomfort and inconvenience attached to the cure. The glamour of an over the seas origin takes strong hold on the average American, especially affecting modistes and physicians, setting them "half seas over" with an auto-intoxication that leaves a large dark brown taste when the stimulant is withdrawn. Few of us realized the extent to which we had surrendered the production of drugs, chemicals and surgical appliances to the foreigner until war closed our avenues of supply. The fault has lain with the individual practitioner, and at that the fault has been largely unconscious, the old story of "Didn't know it was loaded."

Keen practical American invention and investigation is fully able to meet any emergency of production, and while we have vain-gloriously shouted ourselves black in the face over our superiority; we have choked that same productiveness black in the face by refusing to yield the demand that would have forced the supply.

Tom Edison was the largest consumer of carbolic acid in America, and his supply of the chemical was from abroad until the war threatened the closure of one of his recent developments. The wizard of Menlo Park did not close that shop. He investigated the plans for making synthetic carbolic acid, decided which he preferred, built a factory, installed the machinery and within thirty days was producing what he needed and more for the general trade, with better quality and cheaper than it had ever before been done. All he needed was the spur of necessity.

The textile industry was practically paralyzed by the lack of coal-tar colors. Walter Rittman, one of the chemists of the Bureau of Mines, was set to find an American source. He experimented in the laboratories of Columbia University, and has just announced that he has discovered abundance of tuluol and benzol, the basis of coal-tar colors and high explosives, in crude petroleum, and incidentally, has doubled the amount of gasoline yielded by a given amount of the crude, and at the same time cheaper, and with less danger than the old method. This discovery has been patented for the use of the whole American people. When one remember that there are two million gas motor vehicles in America, and that there will be more than half a million more put out this season, he is inclined to swell up with pride over the achievement, forgetting that the same gas engine in manufacturing, agriculture and irrigation is worth more than even the stupenduous motor industry, all of which may thank the impetus of war restriction for the relief of what was fast becoming an impossible condition.

Annually we spend millions of dollars in teaching science, then fail to cultivate the possibilities of our graduates by closing the

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markets that would support their abilities and ambitions, as shortsighted a procedure as that of the gardener who sets thrifty plants, then neglects them and allows weeds to choke them.

For years a stable, simple combination has been on the market for the induction of the kindly anesthesia now called Twilight Sleep, something that any physician of average ability and intelligence could use in the ordinary home, and little was said about it. Even medical men spoke slightly of it. It was made in America! But when the reporters for the magazines heard of the German procedure, they jumped at the sensationalism of proclaiming release from the pangs of child-birth, and exploited it in the lay press, giving priceless advertisement to the something from over the sea.

Patriotism may consist in defying the cannon, carnage and courage of conflict, or it may be found in the common, every-day duty of upholding what is our own. The steady starlight is better than the glare of the meteor, the current flowing through the arc lamp is more dependable and beneficial than the lightning's blaze.

There is a patriotism that is spectacular, and another that lets not its right hand know what the left doeth; there is a patriotism of death and carnage, and another of life and beneficence; there is a patriotism of destruction, and another of construction, building up happiness with no background of grief and suffering and future burdens from warfare; there is a patriotism that simply remembers to apply common sense to its every-day actions and desires.

All that is needful is that every medical American, man or woman, enlist in the Home Guards, by adding his mite to the demand for supplies "Made in U. S. A." What we need is to see our need, after seeing that we declare anew a Declaration of Independence, with the sturdy fortitude of the heroes of Valley Forge only, we will not be compelled to suffer in this our time, not of excuse, but of opportunity.

Good comes from all evil, our profession should grasp the good that begs us to make it our very own.

The Commercial Club of St. Paul has organized a charity committee, the purpose of which is to co-operate with all the charities in the city and to work for any civic project which seems desirable. The first work of this committee is to be in behalf of the county sanatoria appropriation, and the work is to be commenced at once in the legislature and out through the State.

LARREY.

A. ROSE, M. D.

NEW YORK

Larrey was the chief surgeon of the French army in all campaigns of Napoleon. It was Larrey who had created the medico-military system of the French army of that time beginning with the wars of the Revolution. The taking up of the wounded from the firing line, new methods of operation, the organization of a sanitary corps, all that was the work of this one man, and from this point of view alone he was, no doubt, the first of his time. He has left us his memoirs, which have been pronounced as unique of their kind. Billroth spoke of Larrey as the first surgeon of all times.

Of special interest to us is the fact that in all of Larrey's writings we find the principles of *asepsia*, although not known yet by that name.

Larrey had a humanitary idea of high moral value, and his humanity consisted foremost in quick execution of operation in order to shorten pain and in insisting that greater operations should be performed within twenty-four hours while the battle was going on—the severest wounded to be operated on first.

At his time, when anaesthesia was yet unknown the quickness of the operation was wonderful. Precise reports have been given according to which the amputation of an extremity, even amputation at the hip joint, the ligation of the blood vessels included, was done in four minutes. At the battle of Borodino Larrey performed 200 amputations within twenty-four hours.

We are under the impression that before anaesthesia was introduced in surgery greater operations must have had a barbaric character, but from Larrey's writings we learn that such was not the case. Patients would scream but become calm as soon as they were placed on the operating table, and after the operation remarkable euphony was noted. Some would even go to sleep immediately. The quickness with which the operation had been performed and the relief following it had a good effect on those who were next to be operated on; they gave their consent readily. It was Larrey's principle to obtain the patient's consent before operating.

It is true the significance of earliest possible care for the wounded had been understood, but no organizator had appeared to realize it; it was left to Larry during the war of the French revolution to institute

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this early aid, to introduce ambulances going to the firing line.

The great number of invalids with wooden legs, a typical sight during the first part of the nineteenth century was an illustration of the superiority of Larrey's principles compared with those of the surgeons of the time of Frederick the Great; the latter cared for the wounded not during the battle, like Larrey's surgeons, but after the battle. The wounded in the wars of Frederick the Great, when the surgeons and their aids had to remain with the train until the battle was over, received the first aid, as a rule, many hours after waiting in agony. Since Larrey the activity of the surgeon begins with the first cannon. The long list of surgeons killed in the present European war proves the observation of Larrey's principles.

Larrey describes his impressions during an engagement between Houchard and the Prussians in the year 1792: "We had 30 wounded, who—it was this the first time in history—were dressed on the battle-field and then transported. The battle itself made upon me, who was such close witness, a lively impression; however the thought, that I could give so early and sure relief calmed me soon, and after this I witnessed the battles with composure."

General Bonaparte understood that the ambulances were the means to reduce the number of victims of war and at his order given in the year 1797 ambulances had to go to the battle lines. Larrey in his memoirs writes in detail on this resolution of Napoleon. The mere sight of the ambulances had a good effect on the soldiers, increasing their courage. Larrey writes: "In the terrible battle of Wagram I followed with my ambulances all movements of the guard up to the decisive moment, all the wounded were dressed on the spot when they were taken up, and in the evening I had already 500 of them in the hospital; most of these had received severe wounds necessitating great operations; I am certain without the quickly performed amputations the majority of these wounded would have perished."

When Larrey after the capitulation of Alexandria visited the English lazarets he found all arrangements excellent, but was surprised to find only three who had survived amputation. These poor results of the English colleagues who had performed a large number of amputations made him say: "it proves the superiority of French surgery over that of other civilized nations."

At the battle of Borodino he made 11 extirpations of the arm; of these 9 recovered while 2 died during evacuation; 8 of the operated, as he learned afterwards, arrived happily in Prussia and in France. The most remarkable of these was the chief of a battalion who immediately after the operation mounted his horse and came home with the survivors of the great army. From

LARREY

the battle of Leipzig several of the exarticulated returned to France marching. Even soldiers wounded and operated at Borodino arrived in Paris notwithstanding rare or even no change of dressing. It was probably on account of their not having entered infected hospitals—the miserable condition of which I have described in my book* that they were saved.

In our text-books we read that Kussmaul was the first, who, in the year 1869, introduced the stomach tube in therapy, while, in fact, it was Larrey who had already employed it to nourish patients in cases of dysphagy. Murat who had been shot in the neck by Mamelukes at Abukir in such a way that the upper part of the larynx was coughed up, was for weeks nourished by means of the stomach tube. Larrey cured him so well that he could return to France. With his voice regained he was later on enabled to command the largest calvary masses which

*Napoleon's Campaign in Russia Anno 1812.

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ever had been united under one commander, for the powerful attacks of Napoleon.

Larrey had also employed the stomach tube to nourish tetanus patients. Characteristic of Larrey's success and new in the history of surgery were the results of his amputations, namely, 75 to 80 per cent recoveries. These good results were due to his correct indications, his admirable technic and his organization of surgery on the battle-field, he called it the twenty-four-hour principle.

The Napoleonean year of peace—1811—allowed Larrey to write three volumes of his memoirs on his campaigns. During the years 1812 and 1813 his activity as surgeon-in-chief was so great, and the events of these two years so overwhelming that he could not find time for tranquil study, nevertheless his notes on the retreat from Moscow to Koenigsberg are admirable.

Larrey was a man of noble simplicity in langage and manner, like Eblé, the savior of the Beresina. According to Napoleon's saying Larrey and Eblé were the only two who could demand everything from the soldiers, even the superhuman.

I may be permitted to recapitulate from my book an episode from the days of the Beresina:

"The great surgeon Larrey tells how he nearly perished at the crossing of the Beresina, how he went over the bridge twice to save his equipment and surgical instruments, and how he was vainly attempting to break through the crowd on the third trip, when, at the mention of his name, every one proffered assistance, and he was carried along by soldier after soldier to the end of the bridge.

"He has related the incident in a letter to his wife, dated from Leipzig, March 11th, 1813. 'Ribes,' says he—Ribes was one of Napoleon's physicians—'was right when he said that in the midst of the army, and especially of the Imperial guard, I could not lose my life. Indeed, I owe my life to the soldiers. Some of them flew to my rescue when the Cossacks surrounded me and would have killed or taken me prisoner. Others, hastened to lift me and help me on when I sank in the snow from physical exhaustion. Others, again, seeing me suffer from hunger, gave me such provisions as they had; while as soon as I joined their bivouac they would all make room and cover me with straw or with their own clothes.'

"'At Larrey's name, all the soldiers would rise and cheer with a friendly respect.

'Any one else in my place,' writes Larrey further, 'would have perished on the bridge of the Bersenia, crossing it as I was doing, for the third time and at the most dangerous moment. But no sooner did they recognize me than they grasped me with a vigorous hold, and sent me along from hand to hand, like a bundle of clothes, to the end of the bridge.'"

In the year 1818 died in Poland at the age of 86 years General Zajaczek whom Larrey had amputated his leg with instruments from those boxes which he had saved crossing the Beresina—an operation done on the snow under the cannon of the enemy on a man of 80 years of age.

The chapter on the days of the Beresina tells us of heroism unsurpassed in history, of the greatest hero surgeon,—Larrey.

173 Lexington Ave.

PARESIS.

HANS SCHAERRER, B. S.

ST. LOUIS

Medical Department, National University.

Synonyms.—Dementia paralytica. General paralysis of the insane, paretic dementia. The name paresis is now in common use.

Paresis is an affection which is not usually classified among nervous diseases. However it is attended by organic changes which involve the nervous system as a whole, especially the brain and also the cord and peripheral nerves.

Sometimes its first symptoms are purely peripheral, when cerebral and mental symptoms make their appearance relatively late, but in the majority of cases mental symptoms appear early. At first they are exceedingly ill-defined, vague and general, and in keeping with the fact of a diffuse involvement of the brain. This involvement we will see is organic. It consists of a slowly oncoming progressive dementia which is attended by certain characteristic physical signs.

Etiology.—Syphilis.—It is true that a percentage of cases exists in which no history of syphilis can be obtained nor indeed of any venereal infection whatever. But in most of the cases the statements of the patients, as to their past history, are not trustworthy. All paretics are very tolerant to iodides and mercurials.

According to Hoche the Wassermann reaction is positive in the blood in 98 per cent and in the spinal fluid in 100 per cent. Without a previous syphilis there can be no paresis. According to one theory general paresis is but a late manifestation of still

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active syphilis (Plant and Fischer) According to another theory (Kraepelin), general paresis is a disease of auto-intoxication Syphilis produces a disorder of metabolism which results in the formation of a toxic substance, which, in its turn, causes the lesions and symptoms of paresis. Some claim, like Fournier, that paresis is a disease of syphilitic origin, a parasyphilitic affection. Others believe with Joffroy, that syphilis is but an adjuvant—a powerful one it is true—which favors the occurrence of the disease but does not alone suffice to produce it. Investigators have recently demonstrated the presence of the spirocheta pallida, the recognized cause of syphilis, in the brain and spinal cord of paretics.

A. Predisposing Causes.—Sex.—Men are much more liable than women to paresis. The disease is exceptional among women in the country. The proportion of male to female paretics in the large cities is 4 to 1.

Age.—Rare before thirty years. Paresis may be met with in youth, constituting the juvenile form.

Social Factor.—Paresis seems to be the sad privilege of cultured men. But it affects the working class as well. Paresis occurs very infrequently among women of the upper class; but is relatively more frequent among men of the same class. Among the women of the lower classes (especially prostitutes) the number is much greater, though here also men still predominate.

Geographic Distribution.—Paresis is common in England, France, Germany, America, Italy and the Slavic countries. Dercum says it is relatively rare in Scandinavia, Iceland, the Mohammedan countries and India. This statement coincides with the writer's observations. In other words extreme climatic conditions as in the torrid and frigid zones seem to exhibit less paresis than the rapid changes of the temperate zone. However syphilis as a factor as is common in one country as in another. Therefore we are inclined to press the fact of a rapid variance in climatic conditions to the temperate zone as a prominent etiological factor.

B. Alcoholism.—Exciting Causes.—Chronic alcoholic poisoning is in many cases a powerful contributing factor.

Trauma.—Regarding trauma it may be definitely stated that the relation between it and paresis is that of sequence only. Sometimes the phenomena of paresis appear soon after an injury. In most cases, however, they appear after an interval of varying duration. Trauma alone however does not cause paresis.

Overwork, emotion, sexual excesses, act through the general impairment of health which they bring about.

Pathology.—A. Encephalon.—Dura Mater.—Congested, much thickened, often presenting hemorrhagic pachymeningitis. At times cysts are formed adherent to the dura and covered by a thin membrane containing fluid.

Pia, Arachnoid and Brain.—The pia is thickened and whitish. The internal surface of the frontal poles are often adherent. There is a flattening of the convolutions and a thinning of the cortex. The ventricles are dilated and the choroid plexuses may contain many cysts, the ependyma especially of the fourth ventricle, and the inner walls of the lateral ventricles present granulations. These granulations are composed of an increase of neuroglia, which in many cases has undergone hyaline degeneration. There is a diminution of the weight of the brain most marked in cases of slow evolution, often very slight or absent in cases of paresis of a rapid course.

The nerve cells change in number, shape and structure. Many cells disappear, the angles becoming blunt and the cell-body reduced to a small pigmented mass. The nerve fibers suffer atrophy. Where the clinical course has been prolonged and the nerves are much degenerated there remain but a very few normal fibers.

The blood vessels are increased in number and their walls thickened. Some of the vessels are dilated, a few obliterated, and others show small aneurisms. The perivascular spaces are infiltrated with cells.

B. Spinal Cord.—The degenerations are similar to those in the brain. In many cases there is a descending degeneration in the pyramidal tract; in others, changes in the posterior columns. The spinal fluid is increased. In the internal organs vascular changes are so frequently found that they seem to bear a definite relationship to the disease process.

Symptomatology.—There are four forms of paresis, each one showing different mental symptoms. Namely, the demented form, expansive form, agitated form and depressed form.

1. Demented Form.—The demented form is characterized by a gradual progressive mental deterioration without prominence of hallucinations, delusions or great psychomotor disturbance. The onset in this form is very gradual. The patient complains of loss of energy, indefinite pain, pressure in the head and forgetfulness. They are usually good natured. Some patients drink to intoxication and indulge in sexual excesses.

Patients are reckless and may even act in

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opposition to established precepts. The consciousness becomes clouded and the patient becomes unable to perform his duties. He fails to recognize friends and localities. Soon all insight is lost. Patients have transitory hallucinations and delusions. There are some emotional changes, such as weeping and praying. But soon the patient becomes dull and apathetic. They are satisfied as long as they have food, drink, tobacco and the necessities of life. Some patients become restless, wander about, are inaccessible, repulsive and angry. This form of paresis constitutes 40 per cent of all cases. In this form, the duration of the disease is short, about 1 to 2 years. Paralytic attacks occur in about 50 per cent of these cases.

2. Expansive Form.—The expansive form is characterized by greater delusions, a longer course, and greater remissions. The onset is gradual with change of character, failing memory and judgment. The patient complains of fainting spells, headache and intestinal disturbances. The patients express feeling of well-being and happiness. They have wonderful delusions about themselves, but soon pass into the realm of absurd imaginations.

For instance: A soldier thinks he is the commanding general of all European and American armies and is fighting with the Japs with great success. A former policeman finds every criminal on earth and receives a large salary from all nations. A bank clerk has a scheme to control the money market, and a prostitute is married to a king. The delusions become more incoherent and dreamy. In the later stages the patient is cheerful, always feeling good, even if they are bedridden and filthy. Even on their deathbed they say they feel fine. Some patients again fight imaginary enemies, are reckless, aggressive and impulsive. This form constitutes 16 per cent of all cases. The duration of the disease is longer, about 3 to 8 years, due to the remissions. Some cases change from the expansive to the depressive form and vice versa.

3. Agitated Form.—The agitated form has a relatively sudden onset with great psychomotor excitement and delirium. In this form the delusions are extremely expansive and there is a great clouding of the consciousness. The course is short. The prodromal symptoms are lacking and they rapidly develop extreme megalomania. The patients think they are God; have created God, or own heaven and hell. Their ideas seems to surpass the boundary of imagination. Some patients develop what is called galloping paresis. These cases present extreme excitement and profound clouding of consciousness, which leads within a short time to fatal collapse. The agitated form represents about 11 per cent of all the paretics. The duration is in most of these cases less than two years. Paralytic attacks occur frequently and remissions in about 25 per cent of the cases.

4. Depressed Form.—This form shows despondency and depressive delusions. It begins with general malaise, headache, numerous pains and failing memory. The patients are hypochondriacal and their complaints become senseless. Some complain that their stomachs are filled with stones, their intestines are gone, their blood turned to water, that they have millions of electrical wires in their body which are controlled by some one, and so forth. These patients have delusions of self-accusation and persecution. Some cases show great anxiety and restlessness. They pace back and forth and groan and moan, later there is a more less stuporous state. This form comprises about 25 per cent and appears late in life. Paralytic attacks frequent. Most cases die within two years.

Motor Disorders.—Paresis shows very frequently the phenomena of paralysis in the most varied types; monoplegia, hemoplegia or facial paralysis. The paralysis is either flaccid or associated with contractions. A certain degree of motor aphasia is often observed. Paralysis in many cases follows a seizure and is usually transitory. Choreiform movements are often observed. Disorders of reflexes and sensations are found in most cases of paresis.

General Disorders.—The Digestive Apparatus.—Vomiting, constipation or diarrhea are apt to occur. Cardiac symptoms are very frequent. There may be myocarditis, cardiac insufficiency. Slight albuminuria and renal insufficiency are often present. Paretics are prone to have pressure-sores and hematomata.

Diagnosis.—The depressive form of paresis is distinguished from melancholia of involution by the evidence of mental detraction. It often happens that periods of excitement at the onset of the disease are mistaken for delirium tremens, especially where early paretic symptoms have escaped notice in an alcoholic. Dementia precox is usually differentiated by the absence of the characteristic physical signs, good orientation, and the presence of catatonic features.

Prognosis.—It need hardly be stated that the prognosis as regard to life is uniformly unfavorable. To this rule there is no ex-

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ception. Death occurs from cachexia, or from complication, or as the result of an apoplectiform or epileptiform seizure. The average duration of the disease is from two to three years. There is, however, no fixed rule with regard to this. In exceptional cases the disease lasts but several months or even weeks (galloping paresis); in other cases, on the contrary, it is prolonged for ten or more years. The progress of the disease may be interrupted by remissions. Rarely, except at the beginning, are the remissions complete. Almost always the pre-existence of a certain degree of mental enfeeblement, or at least of a psychasthenic condition, and of physical signs exclude an idea of true recovery.

Pneumonia, septicemia following wounds, and intercurrent disease are often the direct cause of death.

Treatment.—This is but symptomatic. It is admitted by all, that specific medication exercises absolutely no favorable influence upon the course of the disease. Special care in regard to cleanliness is absolutely necessary. Kraepelin advocates warm baths of long duration.

Authorities: De Fursac, Dercum, Kraepelin.

JOINT-BODIES FROM WITHIN IN ARTICULATIONS OTHERWISE APPARENTLY NORMAL.

AIME PAUL HEINECK, M. D.

CHICAGO

The joint-bodies herein considered occurred in joints otherwise sound or presenting lesions determined by the joint-bodies themselves or by the violence responsible for their presence. Joint-bodies due to local articular disease (tuberculosis, gonorrhea, suppurative arthritis); secondary to systemic disease (nervous arthropathies, tabes dorsalis, etc.); symptomatic of mono- or poly-articular arthritis deformans, constitute other chapters of pathological anatomy and, therefore, are not considered in this contribution.

Therefore, in formulating our conclusions, we eliminated:

1. Cases reported with insufficient data or with only unimportant details.
2. Supposed or true cases of fragmented, displaced or detached semi-lunar cartilage.
3. Cases of extra-articular bodies which previous to operation had been mistaken for cases of joint-bodies.
4. Cases of extra-articular bodies of intra-articular origin.
5. Cases of joint-body lodged in joint-capsule diverticula, communicating, or not, with the general synovial cavity.
6. Cases of a nature so distinct from that of the joint-bodies herein considered that their inclusion would serve no useful purpose, would needlessly confuse the reader (pedunculated chondro-sarcomata).
7. Cases in which pre-existing or co-existing disease of the articulation can be considered a contributory etiological factor.
8. Cases of mono- or poly-articular arthritis deformans.

To avoid misstatements and to have accurate data as substructure of our conclusions, in all the cases considered, the diagnosis was verified either at the operating, dissecting or post-mortem table.

We attempted to determine the following facts relative to joint-bodies originating within the organism:

a. What is their incidence: 1. As to age? 2. As to sex? 3. As to articulation involved. 4. As to association with pre-existing or co-existing, congenital or acquired, anomalies of the affected articulation?

b. Their etiology, structure and pathological anatomy.

c. Their symptomatology.

d. Their differential diagnosis.

e. Their treatment—operative or non-operative. If operative, should one resort to local or general anesthesia? To joint-lavage? To joint-drainage? To immediate closure of the articulation? To immobilization? What is to be the nature of the post-operative treatment?

f. Results of operative treatment.

g. Conclusions.

Basing ourselves upon a careful study of the English, French and German literature of the last twenty years, upon our clinical experience, we came to the following conclusions: It can be asserted that—

1. Joint-bodies are found in articulations otherwise normal or presenting only such anatomical change as are induced by the joint-body or bodies.
2. They occur in joints, the seat of pathological states (congenital or acquired), having no relation, either as cause or effect, to joint-mice.
3. They can co-exist with various articular lesions either due to the same causative violence, or secondary to joint-body irritation or to totally distinct and independent causes.
4. They occur at all ages, in both sexes, in the white and colored race. They are met with maximal frequency in the male sex and during the third and fourth decades of life.

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5. They are single or multiple, free or pedicled, and involve one or more similar or dissimilar joints.

6. They may co-exist with extra-articular bodies and with various pathological conditions of peri- and extra-articular structures.

7. They vary as to nature, shape, size, mobility, surface characteristics and as to relation to articular bone ends and synovial membranes.

8. All, sooner or later, undergo degenerative anatomical changes.

9. All, irrespective of origin, sooner or later, determine degenerative anatomical changes in one or more, or all of the structure constituting the joint.

10. Violence is the first and foremost etiological factor. It may be direct (bumps, blows, falls, etc.) or indirect (torsions, efforts, sprains, strains, etc.), slight, moderate or severe, and cause, in addition to the joint-body, other articular and periarticular injuries. In exceptional instances, joint-bodies are the result of inflammatory and of neoplastic processes.

11. Joint-bodies, organized blood-clots being excepted, are composed of one, two or more of the constituent tissues of the joint. In structure they are of either of a fibrous, lipomatous, osseous, cartilaginous, osteocartilaginous or mixed nature. The joint-bodies reported in the literature were chips or fragments of bone, of cartilage, of bone and cartilage, masses of thickened indurated connective tissue, organized blood-clots, fibromata, lipomata, chondromata or osteomata.

12. As to articulation involved, it can be asserted, that: a. No diarthrodial joint is immune. b. Excluding the joints of the upper extremity, right and left-sided joints are involved with about equal frequency. c. The knee and the elbow are the most frequent seats of joint-bodies; in the other articulations, joint-bodies are clinical and pathological rarities. d. They are found over five times as often in the knee as in all the other joints put together. e. All bilateral cases reported in the literature are knee cases.

13. Joint-body symptoms are referable to three factors: a. The injury causative of the joint-body. The causative injury determines symptoms of acute articular and peri-articular joint inflammation, symptoms analogous to those occasioned by strains, sprains, contusions, fissures of cartilaginous articular surface, and other joint-traumatisms.

b. To the joint-body proper. The joint-bodies of themselves determine one, more or all of the following symptoms: Joint-pain and tenderness, joint-swelling, joint-crepitus, joint-effusion, joint-disability, joint-locking. These symptoms are merely suggestive of the condition which we are discussing. If the joint-body be palpable, the diagnosis is facilitated. It is absolute if the existence of the joint-body is demonstrated by the fluoroscope or skiagram.

c. To the joint-changes induced by the presence of the joint-body. Joint-body or bodies determine secondary articular changes and thereby attacks of joint-locking and recurrent hydrathrosis are responsible to a large degree for the deviations from the normal in contour, attitude and measurements of the affected articulation and also for the impairment of joint-function.

14. An attempt should always be made to diagnose not only the presence of joint-mice, but also their number, location, nature and other characteristics.

15. Roentgenography is an invaluable aid to diagnose the presence, number, location and nature of joint-bodies. The X-ray examination of a joint should include an antero-posterior and a lateral view. Though the X-ray plate be negative, joint-bodies may be present. If a joint-body from within be not the seat of calcific deposits or contains osseous portion, it casts no shadow upon the X-ray plate. X-ray findings have merely a confirmatory value.

16. An articulation, the seat of a pathological process difficult of diagnosis, should be radiographed. Often this results in establishing a correct diagnosis.

17. An articulation, the seat of a pathological process uninfluenced by the appropriate treatment of the condition thought to exist, should be radiographed. Often this will result in invalidating and correcting the diagnosis previously made, and thereby suggest a positive curative treatment.

18. The only relatively frequent conditions which is difficult, at times, to differentiate from joint-bodies, is a partly or completely detached or ruptured semilunar cartilage. This condition also calls for an arthrotomy; therefore, the mistaking of a joint-body for a detached or ruptured semilunar cartilage or vice versa is not a significant diagnostic mistake.

19. Cases of joint-bodies are not frequently unrecognized, misdiagnosed and, as a result, subjected to injudicious and at times actually injurious treatment.

20. Primary joint-bodies, irrespective of origin, location, nature, volume, number, mobility or surface characteristics, invari-

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ably impair, sooner or later, the anatomical and functional integrity of the articulation which harbors them.

21. Joint-bodies should invariably be removed by an open operation, using that incision which gives best access to the joint-body or bodies, and which inflicts the minimal amount of permanent injury upon the peri-articular structures. Chronic synovial effusions are dangerous to the integrity of the joint and justify the very slight risks which attend modern aseptic methods.

22. Important operative points are: a. General anesthesia. b. Use of an Esmarch constrictor which is removed immediately after ablating the joint-body and before suturing the capsular wound. c. Incisions parallel to the long axis of the limb. d. Location and length of incision determined by the site, size and number of the joint-bodies. e. Removal of joint-bodies by aid of instruments. Intra-articular manipulation should be reduced to a minimum. f. No joint-irrigation. g. No joint-drainage. h. Separate suture of capsule and cutaneous wounds.

23. The removal of joint-bodies is an operation of great simplicity, having no morbidity and no mortality. If an arthrotomy be performed with aseptic precautions, the risks to the articulation, immediate or remote, are nil.

24. The removal of joint-bodies is followed by more or less complete anatomical and functional recovery. In cases of long standing, the return of complete functional integrity is not always immediate.

25. No one should be allowed to go about suffering from primary loose or pedicled joint-bodies. Operation cures the condition and in a large majority of cases leads sooner or later to a complete return of anatomical and functional integrity.

Digestibility of Various Nuts.— Experiments with fats on laboratory animals seem to show that non-emulsified fats of a higher melting point pass out of the stomach more rapidly than those of a low melting point; and non-emulsified fats pass out more slowly than emulsified fats. This would seem to indicate that the rate of passage from the stomach would be in about the following order, the first being the most rapid: cream, butter, olive oil. It would seem from these experiments that there might be some wisdom in the use of some of the artificial lard-like fats in preference to, say, cotton-seed oil.

THE MEDICAL FORTNIGHTLY
and LABORATORY NEWS

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EDITORIAL

The A. M. A. Meeting.

The American Medical Association is to meet at San Francisco on June 21-25 next. Every physician who possibly can should attend, because: These meetings are always tremendously well worth while and make for enthusiasm in work; aside from the scientific programs there is an opportunity to rub shoulders with the men who are really doing things; the trip to and from the coast is one which, in itself, is an unrivalled attraction; and California is an unrivalled attraction; the Panama-Pacific Exposition is now doing in San Francisco and rivals in beauty, if not in scope and extent, anything of the kind before attempted; there is another exposition at San Diego, second only to the one at San Francisco.

If you try to do all these things in a month's absence you will come home thoroughly exhausted, it will have been too much. You cannot do everything on a short vacation and must plan your trip and adhere to the plan. By all means go to the A.M.A. meeting this year.

The New W. U. Medical School Dedicated.

In our last issue we published the program for the dedication of Washington's University's new medical school. These ceremonies took place on Wednesday, Thursday and Friday of the last week of April, and Nature combined her forces with those of the school and the city to make the occasion notable. So many men and women prominent in medicine and in medical education were present that space precludes mentioning them by name; probably on no previous occasion did St. Louis have so

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many medical notables within her gates; and it would be impossible to pick out those prominent among their equals for while Gorgas and Flexner were brought especially to the attention of the profession and the public, and deservedly so, they were surrounded by men of their own class. Each program was carried out according to schedule, the sun shone and it was neither too hot nor too cold and the medical school was given a most proper house-warming.

We believe pretty much all of the good things which were said of this school—that it is almost the greatest on earth; the "Johns Hopkins of the West;" better housed and equipped than any other; better manned than any other, etc. It is, or promises to be equal to the best, and that should satisfy us. Certainly its beautiful and commodious buildings taken with those of the Barnes Hospital and Children's Hospital across the street makes a plant of which any university, any city, any state, and country might justly be proud.

On the last day the university conferred honorary degrees on sixteen distinguished scholars, the larger part of whom are intimately concerned with medical education. The following, who were present, were so honored: Dr. William Townsend Porter, Sc. D., Harvard University; Prof. Otto Knut Olof Folin, Sc.D., Harvard; Theodore Caldwell Janeway, Sc. D., Johns Hopkins University; Rudolph Matas, LL.D., Tulane University of Louisiana; Franklin Paine Mall, LL.D., Johns Hopkins University; Dr. Samuel James Meltzer, LL.D., Rockefeller Institute; Russell Henry Chittenden, LL.D., Yale; Dr. William Henry Howell, LL.D., Johns Hopkins University; Dr. William Crawford Gorgas, LL.D., Surgeon-General of the United States Army; Dr. Simon Flexner, LL.D., Rockefeller Institute; William Henry Welch, LL.D., Johns Hopkins; Dr. Abraham Jacobi, LL. D., Columbia University; President George Edgar Vincent, LL.D., University of Minnesota; President Albert Ross Hill, LL.D., University of Missouri; President Abbott Lawrence Lowell, LL.D., Harvard University.

The Physician and the Garden.

The season of summer always suggests the historical relation of Flora and Asclepios, and no physician can ever cease to remember his obligations, in critical moments, to the dwellers in our gardens and our fields. We should not be surprised to see, facing us, as we approach our brother practitioner's front door, his door-yard filled with the symbolistic and significant rows of digitalis, poppy, cimicifuga, gentian, or hellebore, friends of his leisure and adjutants of his labor.

These simple thoughts of the harvest-time have often enlarged, on occasion. For the flowers of our garden could assume even broader suggestion. The timid hepatica or liver-wort might as unobstrusively denote our internist, as the growth of kidney-beans would imply a specialist of that ilk. No student of the heart should be without his foxglove, and no neurologist or gynecologist might neglect the perennial valerian.

The day of "herb-doctors" is gone. The era of Paracelsus, who gave us mercury, and the days of the antimonialists, these recede, and a new tide has launched our skiffs upon a sea of opotherapy whose cannabalism no man can foretell, and no angel or demon limit. Chemistry and botany succumb to the closer call of the zoologic.

It would prove one pleasure, just as well, if in some ornamental or symbolic way the paths of other times persisted.

One physician, in a truly classic fashion inscribed on a nephrolith a formula of Descartes' "differential"—it was his amusement to wear this charm on his watch-chain, and explain it, when asked, as "calculus."

Perhaps our special hospital could be styled "At the Sign of the Foxglove," "Olives and Bella Donna," or "Between Scilla and Carbo Ligni."

Designs of this sort would decorate professional stationery, and prove expressive and impeccable forms of stating one's chosen study.

If these paragraphs do no more than stimulate us to read up on the "doctrine of signatures," and upon the queer notions of alchemy we shall have accomplished a purpose. The more recondite questions of flora and fauna, of chlorophyll and our reasons for advancing to the use of animal tissue, assume place in the development of our thinking along systematic lines. T.H.E.

Human Endeavor Sixty Per Cent Wasted.

John Brisben Walker, a writer and thinker who has the knack of getting at the root of things, has lately made calculation of the inefficiency of modern civilization, and he figures that 60 per cent of present day human endeavor is to no necessary or practical purpose. We do not purpose to enter at length, or otherwise, into discussion of his

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conclusions; but we believe his enumeration of places where endeavor and effort are really waste is well worthy of consideration and we enumerate the points as they have reached us that they may be productive of thought in places where they may not yet have reached:

1. First place in the inventory of waste will be given to militarism; including the men taken from useful labor, and the making of arms, armor and ammunition, the building of forts, and the endless ramifications of the business of war making.

2. In the next place, we have only to compute the hundreds of millions used upon the navies of the world to realize that this money expended upon education, upon the building of good roads, upon more perfect systems of transportation, would of itself bring an extraordinary prosperity.

3. Rising into even larger figures than even the above is the duplication of effort in the world's work. Stores, drug stores, liquor stores, cigar stores upon every corner are but one of the more evident phases of this duplication.

4. A very large item of the world's waste is the labor consumed in the production of useless or badly made goods. To deceive the public into buying these, immense organizations are maintained and expenses of many kinds incurred.

5. Another loss occurs through the ignorance of individuals charged with the directing of production, resulting in bad methods and waste. This begins with the farm, and extends up through an endless number of occupations.

6. The immense army of those who do not produce, but whose services are required under the existing system of society to protect those who have from the ravenous hunger of those who have not, is the direct result of the 60 per cent waste of human effort. This item includes the armies of lawyers and judges, clerks and police, whose work would not be required if there were enough for all.

7. Labor is wasted which is utilized in the production of articles injurious to mankind: opium, whiskey, poisonous drugs, etc.

8. The labor in homes, hospitals and asylums used in taking care of individuals who become victims of these poisons. In this item is to be included the world's loss in production through the immense number of people made idle by preventable disease.

9. The waste in manufacturing articles that serve no real purpose in the comfort or convenience of mankind, that are now foisted upon the public by appeals of the manufacturer to the vanity or weakness of men and women.

10. The vast cost of advertising required to induce the public to buy a well-made and valuable article, in opposition to one that is fraudulent.

11. The great army of those who live as parasites upon the human family, trading upon their woes and prejudices; producing nothing themselves except additions to the sum total of human misery; such as gamblers, usurers, preachers of crank religions, clairvoyants, confidence men and the whole army of those who prey upon mankind's necessities, or upon its imaginary needs.

12. The destruction of human bodies by disease and by the vice traffic, having its roots set in the greed created by existing conditions of poverty.

13. The loss through the destruction of the individual who would have been useful in production, but whose body has been impaired in child-labor, due to the greed of the existing system.

14. The loss through bad distribution of products, or through inability to distribute the surplus products of farms and factories, because of lack of transportation, lack of organized markets, or through other causes due to unscientific organization.

15. Labor used up in hauling over the mushy roads which cumber the earth's surface, four-fifths of which would be saved if the money now expended upon battleships could be devoted to road-building.

16. The waste through middlemen, who impose themselves upon the operations of production, or are required under existing conditions.

17. Use of machinery not calculated to do efficiently the work of the farm and factory.

18. The loss of time due to the occupation of cities built irregularly and unscientifically, under the system of speculative land holdings.

19. Lessened production due to the fear and anxiety which arises from the constantly varying conditions of labor, and through lockouts, strikes, etc.

20. Men engaged in professions which render services that are only needed in an imperfect condition of society. They serve the ideals of our present civilization without themselves producing anything that is useful and so they help to exhaust the resources of the workers.

21. Finally, we come to the waste that is most difficult to measure, but is undoubtedly the greatest of all: the waste of brain power. First, our education serves to befog and confuse; it tends to create machines instead of thinkers. If the mind of genius survives this ordeal, society takes it and puts it in the treadmill. It says: Your duty is not to study great problems, to design great enterprises, to write great books, but to turn the treadmill which grinds out the daily grist for your family!

Great artists paint for money. Great authors are chained to the publisher's ideals of best sellers. Physicians must bow to the prejudices of their patients.

Surgeons but too often operate for the gold that is found in the appendix. The legal mind becomes the trickster for nefarious business.

The legislator attaches himself to interests needing protection. The minister of Christ avoids offensive allusion to the business crimes which his parishioners are committing.

And so these brains, distorted by the necessity for daily maintenance, fall infinitely below their possibilities of usefulness to the world. What progress the world would make if the human brain could be left free to work in the direction of its greatest talent! How the gospel of Christ would sound if preached as Christ gave it, freed from the excuses made in his name for social conditions in opposition to his every teaching! What wisdom would not be given to the world if the brains now engaged in formulating deceptions and practicing frauds upon their fellow men could be consecrated to truth and the public welfare!

Carbolic Acid Poisoning.—The best antidote is alcohol, and one should be sure to give enough, and give it quickly, for carbolic acid is a very rapid poison. Another remedy is Epsom salts, which may be given in case there is no alcohol at hand.

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BOOK REVIEWS

Books, Reprints, and Instruments for this department should be sent to the Managing Editor, Century Building, St. Louis, Mo.

Cancer; Its Cause and Treatment. By L. Duncan Bulkley, A. M., M. D., Senior Physician, The New York Skin and Cancer Hospital, etc. New York City: Paul B. Hoeber, Publisher, 69 East 59th street, 1915. (Price, $1.50 net.)

At present the cancer problem is interesting the American profession as never before, and a text from such an authority as Dr. Bulkley is certain of a most cordial reception. Some of Dr. Bulkley's views are somewhat out of the accepted line as regards cancer, though to the satisfaction of those who have questioned the surgical dictum in the connection. He urges the avoidance of articles of diet and habit which may provoke or promote cancerous growths, deeming the disease primarily one of deranged metabolism. He urges the simple life as a precaution and in treatment. In urging medical care as equally, if not more important than surgical care he sounds a note which must appeal to those who have many, many times witnessed recurrence after radical surgical interference with the lack of medical supervision. The volume is valuable and should be widely read.

Modern Medicine. Its Theory and Practice. In Original Contributions by American and Foreign Authors. Edited by Sir William Osler, Bart., M.D., F.R.S., Regius Professor of Medicine in Oxford University, England, etc.; and Thomas McCrae, M.D., Professor of Medicine in the Jefferson Medical College, Philadelphia, etc. In five octavo volumes of about 1,000 pages each. Volume IV. Diseases of the Circulatory System; Diseases of the Blood; Diseases of the Lymphatic System; Diseases of the Ductless Glands; Vasomotor and Trophic Disorders. Just ready. Philadelphia and New York: Lea & Febiger, Publishers, 1915. (Price, per volume, cloth, $5.00, net; half morocco, $7.00, net.)

The publication of Volume IV of Modern Medicine marks another important step towards the completion of this monumental work. Its appearance, while the impression of extraordinary usefulness created by its immediate predecessor is fresh in the minds of its fortunate readers, naturally creates a receptive atmosphere which is amply justified by the scope of the volume; by the practical and exhaustive consideration afforded the various subjects, and the editorial acumen evidenced in the assignment of space and the selection of the authority best qualified to treat each of the subjects taken up. The distinguished editor has contributed more largely to this than to the preceding volume.

The volume under consideration conforms to the high standard already established for this series in intrinsic value and in the perfection of typographical and illustrative details. It deals with the disease of the circulatory system, of the blood, of the lymphatic system, of the ductless glands, and with vasomotor and trophic disorders. In each of the five sections the reader is presented, fresh from the pen of the author, with a clear exposition of the best present-day thought and practice.

While the very wealth of valuable material comprised in this volume precludes any extended review of the individual contributions, among those which are worthy of special mention are the chapters on Arterial and Valvular Diseases by Sir William Osler; on Insufficiency and Dilatation by Alexander G. Gibson, M.D., F.R.C.P.; on Diseases of the Lymphatic Vessels and of the Lymphatic Glands by Aldred Scott Warthin, M.D.; on Pernicious and Secondary Anemia, Chlorosis and Leukemia by Richard C. Cabot, M. D.; on Diseases of the Adrenal Glands, the Pituitary Body and of the Thyroid Glands by George Dock, M.D.; on Hodgkins' Disease by Warfield T. Longcope, M.D., and on Vasomotor and Trophic Disorders by the editor.

Cystoscopy and Urethroscopy. By Bransford Lewis, B.S., M.D., F.A.C.S., and Ernest G. Mark, A. B., M.D., F.A.C.S. With a chapter by William F. Braasch, M.D. Philadelphia: P. Blakiston's Son & Co. (Price $4.50 net.)

Those of us who well know Dr. Lewis know what to expect from him when he undertakes a work of this character; he is easily one of the best versed cystoscopists of this country, and America leads the world in cystoscopy. The impress of Dr. Lewis is seen throughout the volume, it is easily the best thing on the subject which has as yet come to us, and it leaves little to be desired. The authors each take up their subject with a view of giving practical detail and the reader who is not already well versed in cystoscopy will find in the volume instruction which is second only to working under a master in the operating-room. The book is spendidly planned and executed.

A Medical Dictionary for Nurses. By Amy E. Pope, Graduate of the Presbyterian Hospital, New York, etc. New York and London: G. P. Putnam's Sons; The Knickerbocker Press. (Price, $1.00.)

Literature definitely intended for nurses has been singularly scarce despite the fact that these be times when the occupation of

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nursing closely approaches a profession. This is a valuable addition to what has been, and must prove a practical work for student and practicing nurses. The limitation of terms defined to those definitely of interest to nurses has been well accomplished and the definitions are properly instructive, while concise. The introduction of illustrations considerably enhances the value of the volume.

Progressive Medicine. A Quarterly Digest of the Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D. Assisted by Leighton F. Appleman, M.D. March 1, 1915. Volume 1. Philadelphia and New York: Lea & Febiger, 1915. (Price, $6.00 per annum.)

The table of contents for this volume is as follows: Surgery of the Head and Neck, Charles H. Frazier, M.D.; Surgery of the Thorax, Excluding Diseases of the Breast, George P. Miller, M. D.; Infectious Diseases, Including Acute Rheumatism, Croupous Pneumonia, and Influenza, John Ruhrah, M.D.; Diseases of Children, Floyd M. Crandall, M.D.; Rhinology and Laryngology, George B. Wood, M. D.; Otology, Truman L. Saunders, M.D.

A Text-Book of the Practice of Medicine. For Students and Practitioners. By Hobart Amory Hare, B.Sc., M.D., Professor of Therapeutics, Materia Medica and Diagnosis in the Jefferson Medical College, Philadelphia, etc. Third edition, revised and enlarged. Imperial octavo, 969 pages, with 142 engravings and 16 plates in colors and monochrome. Philadelphia and New York: Lea & Febiger, Publishers, 1915. (Cloth, $6.00, net.)

Anything from the pen of Dr. Hare is certain to be of practical value, the doctor has singularly appreciated the needs and necessities of the physician in practice. Few other writers seem to have discovered that it is practice rather than theory that is of interest to the profession. What Dr. Hare says is worthy of attention and, if followed, will prove effective in practice.

This, the third edition of this work on "Practice," is a thorough revision of the previous edition and brings the work thoroughly up to date. Rewriting of certain sections, the addition and substraction from the text which appeared necessary to the author have made the volume one of the best single-volume texts now available. To any practitioner the book is a valuable guide, but to the student and young practitioner it especially appeals in its fortunate characteristic of presenting the facts which you need in the connection of their need. The volume is tremendously well worth having and using.

THE MONTH'S MAGAZINES

A World Uprising Against Alcohol.—In France there is on foot a temperance movement led by the strongest newspapers, with the approval and adherence of many public men. Early in the war one of the worst of alcoholic beverages, absinthe, was suppressed by the French Government, but other kinds of strong drink are easily obtained and their use is prevalent. The French movement aims chiefly at bringing the sale and use of liquors under regulation by a more effective kind of licensing, a prohibition of the stronger kinds of liquor that are being substituted for absinthe, and a sharp limiting of the hours during which drinks are sold. There is no movement in France against the making, vending, and ordinary use of domestic wines, in which the percentage of alcohol is not great. But there is likely to be a strong effort made to diminish the use of distilled liquors, and to regulate much more strictly the whole drink traffic, including the wine shops. Never before has France shown such seriousness of moral purpose; and it is believed that permanent social changes for the better are taking root.

The agitation in England, however, is just now the foremost topic in the world-wide movement against alcohol. It is hard for Americans who have not witnessed the things themselves to realize the extent to which the working classes in the British Islands are addicted to drink, and the immense political and social power that the liquor traffic has long exercised in the United Kingdom. This traffic, together with the landed aristocracy and the established church has been one of the three chief supports of Conservatism. But England is gradually taking the war seriously; and the foremost military and civil authorities find intemperance a handicap. They have even declared that the drink question was important enough to amount to quite possibly to the difference between success and failure in the great struggle. The use of drink can of course be controlled in the army training camps, though stern measures have had to be used to protect the enlisted man against the drunkenness of the civilian environment. Of late the drink question has been discussed from the standpoint of the efficiency of industrial workers. England is building great numbers of ships, and making all kinds of munitions and army and navy supplies. British workmen in shipyards, dock laborers, factory employees

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making guns and a hundred other things, are more concerned about short hours of labor, union rules, their endless potations, and their sports, than about the nation's welfare in this time of crises.—From "The Progress of the World," in the American Review of Reviews for May.

May Century Notes.—The May Century, it is announced, contains an article entitled "The Ounce of Prevention," in which Prof. R. M. Johnston, the well-known authority on military history, it points out how America should meet the perils with which the war confronts her. Prof. Johnston asserts that had Belgium followed the example of Switzerland in military affairs, instead of wrapping herself up wholly in her commerce (which, many will be surprised to learn, exceeds that of Italy, Russia, or Austria), things would have gone very differently with her. Prof. Johnston presents a sketch of our military incompetence in the past and recommends reorganization of our army on the Swiss model.

The present agitation of King George, Lord Kitchener, Lloyd George and other leaders in England for the forcible curtailment of drinking there lends timeliness to an article entitled "War and Drink," which is in the May Century. It points out how despotic Russia has set tolerant England a notable example, and how from 30 to 40 per cent of the new English soldiers have been rendered inefficient through drink. The article explains further the influences and traditions which will be serious obstructions in the way of England's in following the radical prohibition programme of Russia and France. James Whelpley writes the article.

"The Higher Patriotism."—Madame de Stael has said that "the patriotism of nations ought to be selfish." This must be interpreted, however, within certain limits. And it is the office of the higher patriotism to define and to transcend these limits. As no individual dare live unto himself, so also no nation dare live unto itself; it fails to fulfil its destiny if it is wholly self-centered and self-absorbed. But is it natural to love a stranger and an alien as we love our own kin and kind? Most assuredly it is, if we are discriminating as regards the sense in which we use the word "love." The word indeed has two quite distinct meanings. There is the love which is identified with affection—that affection which is bred of intimate intercourse and community of interests and desires. It is the love we cherish for the inner circle of family and friends. There is, however, another sense in which we use the term "love." It is in this sense that we are exhorted to love our neighbor as ourselves—nay, to love even our enemies. This type of love is quite another matter. It signifies a certain attitude toward all mankind, showing itself in a twofold manner in a disposition to respect every man's rights and a willingness to minister to his needs. "To do justice, to love mercy;" these are cardinal doctrines both of religion and morality, according to the old Hebrew prophet. It is easier to obey the first than the second of these commands. It is easier to respond to the appeal—especially when it comes to us at a time of calamity and widespread suffering—to love those in distress and to give them true sympathy and substantial aid, than it is to maintain both the spirit and the letter of justice in our dealings with those who are in distress and who neither ask nor need help of us. Nevertheless, the love of our fellowmen is only a name, and therefore a mockery, unless it recognizes and respects the law of just and fair dealing not only between man and man, but between nation and nation as well.—John Grier Hibben, in the May number of The North American.

May St. Nicholas.—"Chained Lightning," a new serial story by Ralph G. Taber begins in the May number of St. Nicholas. It is an exciting story of the Mexican adventures of two young telegraphers. In this first installment one of the young telegraphers shows his strength of character by refusing to yield to a great temptation to do wrong which has been put in his way, as he afterwards learns, merely to test him. As a result of his choosing the right, he is notified of his promotion to a higher office. In the meantime he has given his word to go to Mexico with a fellow-telegrapher, and this installment ends with his declaration that he will keep his word. This serial will probably run through six numbers of St. Nicholas.

Oculists, Aurists and Other Specialists have been greatly disturbed by the Harrison Anti-Narcotic Law. Some started out to make a record of every patient treated with any of the prescribed drugs. It is now ruled by the Internal Revenue Department that such a physician must make a record of a stock solution at the time it is prepared and again on date the last of it is used. This applies, however, only to weak stock solutions used as an application in the treatment of patients in the office.

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WHAT THE MEDICAL EDITORS ARE SAYING

Vesiculectomy in Tuberculosis of the Genitalia.—The profession was once in favor of vesiculectomy in tuberculosis of the genital organs, but a healthy change in ideas has of late taken place and conservative treatment is looked upon more favorably. It is far too common to consider as cured a patient who does not return for treatment; it is quite difficult, therefore, to estimate correctly the outcome of these cases. Primary or isolated tuberculosis of the epididymis, which had been considered common, is now looked upon as the exception; generally it coexists with lesions in other parts of the genital organs. The urine is frequently purulent, and out of a total of 104 specimens from the Massachusetts General Hospital, Barney found that thirty-nine contained pus, while out of eight inoculated guinea pigs, seven showed positive tuberculous lesions. It is clear, therefore, that an operative interference which is limited to the genital apparatus will not eradicate the entire trouble; it is also clear that unless one is dealing with extensive and advanced tuberculous lesions, the diseased seminal vesicles may be overlooked, as usually there are no functional symptoms unless the vesicles are so enlarged as to cause pressure on the rectum.

A most important argument for non-interference is the regression of the process in a large proportion of deep-seated lesions after removal of the tuberculous testicle. This regression has been observed by many operators of vast experience and cannot be denied, but it does not invariably occur. It is safe to say, perhaps, that generalization —usually a meningitis—occurs in about twelve per cent of the cases operated on, which is practically the same result observed in operative treatment for tuberculous lesions elsewhere. Another, and not the least important reason for discarding vesiculectomy is the difficulty in attaining the vesicles, not to speak of the many complications to which interference may give rise.

Rupture of the vas deferens, urinary fistula, the possibility of injury to the ureter, when duly considered, offer little attraction or pleasure to the operator, no matter how great his skill. For these reasons many prefer to abstain from operation, which is always long and difficult, frequently unfortunate, and often barren of results, while less intricate operations are followed by a regression of coexistent lesions. A simple palliative treatment, or epididymectomy, not infrequently turns out quite as well, and without any of the complications referred to. Vesiculectomy has given some excellent results, but it must be admitted that they are the exception, and extirpation of the vas and seminal vesicles therefore should be an exceptional operation, the wisest course being simple vasoepididymectomy and, in selected cases, castration.—N. Y. Med. Jour.

The Prostate.—Among the most common and tormenting ills of old age, and frequently of middle life, is the enlargement and inflammation of the prostate gland. Frequently in old men it becomes malignant. The catheter, while often indispensable, increases inflammatory conditions, unless it is used very carefully, and a Nelaton at that. The smallest one should be used, when possible, but if the amount of mucous and blood choke it up, of course a large one is necessary. Where there is so much mucous, the bladder should be flushed with a hot sterile solution of boric acid. Cases will go on dribbling till the bladder becomes enormously distended. The viscus becomes distended to a certain point where the nerves are so obtunded that sensibility is lost. Cases occur sometimes where three quarts of decomposed urine are evacuated at one time. Hemorrhage into the bladder, with obstructive hypertrophy, is a grave trouble, and removal of the central lobe, which curtains the prostatic urethra, is absolutely necessary. There is no doubt but that in a majority of cases in old men, where they have been of long standing, the gland becomes scirrhused; and such condition being irremediable, death results soon. As a rule, however, it is the middle and not the lateral lobes which overlap the vesico-urethral orifice and so seriously obstructs the outflow of the urine.

Prostatic disease is slow and often insidious in its development. The victim realizes that it is much more difficult to micturate but he attributes it to the natural disability of age. Gradually the trouble becomes more serious. He has pain, a sense of weight in the pubic and peroneal region, and a tormenting and irresistible desire to empty the viscus. He gets only temporary relief. The urine becomes foetid, dark, weak coffee colored, and mixed with thick ropy mucous. Now he begins to relieve himself with a catheter and then gradually the "combat thickens."

The treatment, while not curative, can afford great relief and prolong life. Hyo-

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scyamus, belladonna, alkaline solutions such as potassium citrates, dionin as an anodyne; diuretic alkaline mineral waters; the antiseptic urotropin tablets, or cystogen-lithia tablets which contain formaldehyd, are excellent. Frequently a rectal suppository containing extract of hyoscyamus, extract of opii, ichthyol, and oil of theobromates inserted at bedtime produces good results.—Charlotte Med. Jour.

The Probable Prevalence of Venereal Disease.—It is manifestly a matter of extreme difficulty to estimate correctly the prevalence of venereal disease in any community, owing to the absence of authenic records of definite value. Dr. Charles G. Banks, writing in Public Health Reports, February 26, 1915, suggests as a basis of estimate, as probably the nearest approach to a normal comparison with the general population, the class known as seamen. After pointing out that seamen are generally supposed, and with some truth, to be proverbially careless with regard both to drink and to sexual intercourse, he goes on to say that it would also be imagined that venereal disease is rife among them. However statistics of the Public Health Service show that but one case in five among seamen is of venereal origin and if the professional and popular conception is different from the facts we may be prepared to admit the now obvious conclusion that the same class of disease is not prevalent among the general public to the extent claimed by some. Arguing then from the standpoint that the sailor is the extreme probability, numerically speaking, of the gonorrheic and syphilitic in our problem, the high water mark, indeed, in the possibilities, Banks is of the opinion that the prevalence of syphilis has been considerably exaggerated. He considers from an analysis of the situation that the actual number of persons acquiring venereal disease in the United States is less than 3 per cent annually, although it would be an impossibility without a complete census to ascertain the number of persons actually infected with venereal disease at any single date. As is pointed out, the real interest centers practically in facing the problem for the future, not in estimating the exact damages of the past. It is really a campaign for prevention, and we can start out by saying that we have to meet with nearly two and a half million cases of venereal diseases annually treated in the United States, about one person in every forty.—Med. Record.

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NOTES & ABSTRACTS

Rapid Relief in Acute Lumbago by Manipulation and Active Movement.—Haig (British Medical Journal) gives his method of treatment as follows: It consists of (1) deep thumbing of the lumbar muscles, in process of which a painful area is usually found either in the middle line or to one or other side; (2) fixing the part of the vertebral column below this painful region by firm pressure of the thumb on each side of the spine; and (3) making the patient perform movements of flexion, acute dorsiflexion, lateral flexion, and rotation. The result is cure of the attack of lumbago, inasmuch as the patient is able to at once return to his work, and in no case did the writer have to repeat the process. Among the many remedies suggested by authorities on lumbago, remedies so varied as to include purgatives, diuretics, diaphoresis, hot baths, Turkish bath, warm packs, fomentation, hot ironing, iodides, iodine, guaiacum and sulphur, nux vomica in large doses, hypodermics of morphine or cocaine, counter-irritation by cautery or blisters, electricity with massage, acupuncture and porous plasters, the writer only finds two suggestions as to movements. Romer advocates in traumatic lumbago the stretching of the contracted muscles and rupture of the adhesions by forcible movements executed under chloroform. And Chalmers Watson, in the Encyclopedia of Medicine, says: "To those who cannot readily obtain the requisite amount of active exercise and fresh air desirable it is advisable to recommend the daily performance of two or three studied muscular movements—movements calculated to bring into play those muscles whose functions through non-use are being abused." Obviously these writers are referring to chronic cases. The writer's method is, he thinks, better, inasmuch as it cures the condition in the acute stage, and prevents it from becoming chronic.

Internal Use of Red Iodide of Mercury in Enlarged Malarial Spleen.—Datt, in the Indian Medical Gazette for September, 1914, asserts that of all the counter-irritants to the enlarged spleen red iodide of mercury stands first in reducing it, although there are other counter-irritants of the same nature, but of inferior value in these cases. In Datt's opinion, red iodide acts not by its irritant action in these cases, but by absorption it produces certain changes in the

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system which cause increased leucocytosis, and thus it effects the cure. Bearing this view in mind, Datt has been using this drug internally with marked success in several cases for the last two years. It reduces the spleen and improves the health of the patient. He has never seen any bad results from its administration. If it proves equally efficacious in other hands as it did in his, its use will make a considerable reduction in the expenses of the dispensary and at the same time increase the comfort of the patient. Datt uses this drug alone and only internally in the following way:

Red iodide of mercury.....gr. 1-20
Potass. iodide.....gr. ij
Aqua.....dr. iij

After two weeks he increases the dose to gr. 1-16 per dose.

On taking the blood counts, he has found that it increases leucocytosis. The earliest test seen it increased on the tenth day, when the leucocyte count rose from 1500 to 2500. The differential counts also show these changes. At first the large mononuclears are not increased, but afterwards there is an increase of the large mononuclears with increase of the polymorphonuclears and of the small mononuclears. Datt would suggest that this drug be tried in kala-azar cases. He is experimenting with it in healthy men to find whether it increases leucocytosis, and will publish his results later on in these cases.—Therap. Gazette.

Hay Fever.—George B. Wood, in Progressive Medicine, Vol. XVII, No. 1, gives an excellent review of the treatment of hay fever. There has been an attempt during the past year to immunize patients by the injection of pollen toxin. Ulrich prepared an extract, after the plan of Dunbar, with which he treated twelve cases of the disease during the past season. He found the patient, in the majority of instances, was wholly or partially relieved for a period varying from a few hours to several days, a week being the longest. Relief began in from fifteen minutes to two hours. There was also a gradual and lasting improvement that the author could not attribute to a diminution of pollen in the air. Lowdermilk prepared a toxin from varieties of the ambrosia and of the solidago. Treatment was begun with this a month before the expected attack. Of sixteen patients treated after the onset, thirteen were cured, and, in the three not benefited, symptoms were present an entire month before treatment was begun. Koessler has treated forty-one cases by immunization. A large majority showed marked improvement, and four were entirely cured for one year, at least. Those suffering from asthma were altogether relieved of their asthmatic symptoms. Freeman states that his patients suffering from constitutional symptoms, as asthma, showed better results than those with but local disturbances. He states that hay fever treated by active immunization is successful, and that the immunity seems to last at least one year from the time treatment is discontinued. Dr. Wood truthfully sums up the present situation as follows: Although there is some promise in the possibility of active immunization against hay fever, this prophylactic treatment is too much in its infancy to be recommended to general practitioners, and remembering the great eclat with which Dunbar's antitoxin was introduced and the popularity which it had for two or three years after its introduction, we hesitate somewhat about being too enthusiastic about the results that are to be obtained by this method of active immunization.

Operations on Diabetics.—T. Addis, San Francisco (Jour. A. M. A., April 3, 1915), rejects the dangers of infection and nonhealing as of importance to be considered in operations on diabetics, and holds that diabetic coma is the only real danger that deserves consideration. Hence the common method of preparing diabetic patients for operation, by keeping them on a sugar-free and starch-free diet, is useless and worse, for it increases the chances of coma. When operation is not immediately called for, it would be of great advantage to supplement the clinical observations by some reliable objective data. The amount of sugar in the urine is no aid in this regard, as the danger to life is the failure, not of sugar, but of the fatty acid metabolism. There is no question as to diabetic coma unless oxybutyric acid or its salts are found in large amounts; and he thinks it probable that there is also a form of death in coma which is not caused by poisoning with acids. The coma in which diabetic patients die after operation is often, at least, accompanied by the excretion in the urine of large amounts of unoxidized fatty acids, but this does not give a reliable indication of the degree of danger. What is needed is a functional test of the fatty acid oxidizing power. The estimation of the degree of impairment of the power of the body to oxidize fatty acids is of prime importance in deciding whether or not operation is advisable. The inability of the kidneys to excrete large amounts of fatty acids is a factor in the production of diabetic coma. The giving of alkali helps

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the kidneys in this way; and it is important, before operation, to give alkali until the urine becomes alkaline and to maintain this reaction until after operation. Successful storage of glycogen in the body before operation or keeping the urine alkaline are neither absolute barriers against diabetic coma, but are only palliative measures. All the conditions which act together to produce shock serve as exciting causes of the condition known as diabetic coma.

The "Deathbed of the Tabloids."—Under this heading, Am Totenbett der "Tabloids," the Therapeutische Monatshefte comments on the efforts in Germany to discontinue the use of British proprietaries and especially of the "erstwhile so popular English miniature tablets." The Apotheker-Verein offers its services to physicians to help them to select equivalents, made in Germany, for foreign proprietaries, and has published lists of available substitutes. "This movement is a political as well as a patriotic necessity. But the same patriotic motives can scarcely be ascribed to the numerous German manufacturing chemists who, swimming stoutly with the tide, have sought protection for and registered an equal number of trade mark names. Instead of the single term "tabloids" eight new names have been registered, 'comprets,' 'primoids,' 'puroids,' 'tablettidae,' 'tablonettes,' 'trochoid,' 'tabletten marked Hageda' and the tablet put out by a syndicate with the initials of the firm composing it, 'M.B.K.' The Pharmazeutische Zeitung offers still another term 'piluloids.'" The editorial continues: "Hence the otherwise gratifying crowding out of a foreign-made pharmaceutical leaves us little to rejoice over, as it brings with it these disagreeable side-issues. At the same time, it may be as well that institutions which lead to such consequences are thus carried to ridiculous extremes. The suggestion that the fancy names 'amphiols' or 'amploid' be used instead of the term 'ampule,' is another step in the same direction.

Pyelography.—Incited by reports of cases of ill effects and even death following the injection of collargol for roentgenographic purposes, D. N. Eisendrath, Chicago (Jour. A.M.A., Jan. 9, 1915), undertook experiments to test the question as to whether or not collargol can damage the kidney and cause death when so injected. He attempted to study the question from every angle, measuring the pressure with which the fluid is injected. Dogs were used and the technic is described. It was possible to imitate perfectly the methods of using collargol in the human being. Only one animal out of forty showed evidences of infection, so that can be eliminated in interpreting the results. He and his assistants, Dr. Schnoor and Miss Byrne, believe that they are able to show from the lesions found in experiments on healthy and diseased kidneys injected with various substances (collargol, cargentos, and methylene blue) that the majority of ill effects reported up to the present time "have been due to lack of consideration of the fact that when the capacity of the human renal pelvis is exceeded by the amount of fluid injected, and a high degree of pressure employed, the solution is either forced into the loose tissues around the renal pelvis and kidney, or into the renal parenchyma, and from here into the circulation and deposited in various viscera." A summary of the experiments is given. "In Series I, in which the amount of collargol injected did not exceed the capacity of the renal pelvis, and only enough pressure was used to distend it lightly, practically no deposits in the kidney occurred, and no damage to its epithelium. When the pressure and quantity were increased, as in Series 2, the collargol was found more constant either in the kidney or lungs, or both. In (experiment) 314 it was found in the blood-vessels of the kidney. In animals which lived for some days there was ample evidence that some irritant had been present, and had been the cause of an intense inflammatory reaction. The more severe effects which collargol and cargentos can cause in both normal and pathologic kidneys are well shown in the remainder of the experiments. There can be no doubt that when more fluid is injected than the renal pelvis can hold, or it is injected with too much force, then the tension within the renal pelvis rises to such an extent that the fluid, whether it be collargol, cargentos or methylene blue or any other substance sufficiently concentrated, is forced into the interstitial tissue and tubules, and soon breaks into blood-vessels and is carried by the veins to the lungs, and produces either embolism with immediate death or an acute pulmonary edema, hemorrhagic infarct or a pneumonia." He concludes that the use of collargol and cargentos in pyelography does not deserve to be condemned. They are safe aids to a valuable method of diagnosis when used with care. The experiments show the dangers of injecting any fluid into the renal pelvis in too great quantity and with too great pressure.

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The Laboratory News

(Consolidated with The Medical Fortnightly October, 1914.)

A Journal of Laboratory Facts for the General Practitioner.

Edited by R. B. H. GRADWOHL, M. D., St. Louis.

LABORATORY AIDS

Attainment of Absolute Zero.—For years scientists have had before them a quest as elusive as the quest for the poles; the attainment of the lowest possible temperature, which calculations indicated would be 273 degrees below zero centigrade. This figure was deduced from the fact that any gas at the freezing point (zero centigrade) contracts 1-273d of its volume for each degree centigrade that it is chilled below zero. Thus 273 cubic centimeters of a gas at zero are condensed at —10 deg. C. to 263 cubic centimeters, at —100 deg., its volume is 173 cubic centimeters, and so on through each temperature observed. The obvious conclusion, therefore, is that at —272 deg. the original 273 cubic centimeters of gas would be contracted to the volume of one cubic centimeter, and that at —273 deg. some new condition would obtain. Physicists, therefore, termed —273 deg. "absolute zero" and the query has been, what will occur when we attain this extremely low temperature?

Hence an interesting occupation has been the attempts at getting lowest possible temperatures, and this has been done by utilizing liquefied gases. Thus liquid air on evaporation has a temperature of —180 deg., liquefied hydrogen boils at —253 deg., while liquefied helium boils at —268 deg.

It was with this last fluid that the feat of attaining absolute zero has been performed by Professor Kamerlingh Onnes, of the University of Leyden, and an interesting account of his experiments is given in Harper's Magazine for October by Professor R. W. Wood, of Johns Hopkins University.

Professor Onnes now possesses almost 8 ounces of that rare substance, liquefied helium. This he has in a double-jacketed glass container, surrounded in the outer jacket by liquefied hydrogen. Lastly, this is surrounded by a bath of liquid air, and thus the helium has two protective insulating layers between it and the outside air.

As mentioned above, helium boils at—268 deg., but Professor Onnes has found that when the pressure in the helium tube is reduced by use of an air pump, the evaporating helium is reduced to a temperature of—271.2 deg., or within 1.8 deg. of absolute zero.

The experimental work done by Professor Onnes at this temperature has been limited to a study of electrical conductivity, but this has brought remarkable results. Study of the decrease in the resistance to the electric current in such metals as lead, copper, mercury, gold and platinum, at low temperatures showed a mathematical ratio in each case, and when this decrease in resistance for each degree of reduced temperature was plotted out as a curve, it was shown that the curve in the case of each meal practically terminated at—273 deg.; in short, it seemed that at —273 deg., the resistance of these metals to electricity would be practically nil.

Now that absolute zero has been practically attained, Professor Onnes tried the interesting experiment of dropping into the liquefied helium a continuous coil of copper wire, in which he induced a current of electricity by means of a powerful electromagnet. Under ordinary circumstances, when the magnetic influence is removed, the induced electricity is no longer manifested, but in the Onnes experiment, the electrified copper coil at —271 deg. continues to show the flow of a current of electricity long after the electromagnet has been removed.

Absolute zero was supposedly the point at which heat waves cease to vibrate. And now Onnes' experiment seems to show that where there are no heat waves there is no electrical resistance.—Druggists' Circular, Dec., 1914.

An Improved Method for Testing Urine for Acetone.—(By Frederic E. Niece, Druggists' Circular, Dec., 1914.)—Experience has taught clinical pathologists that independent laboratory reports show different results of the examination of the same specimen of urine, when testing for the presence or

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absence of acetone with the well-known nitroprusside method.

Slight modifications of procedure will cause such noticeable differences in the final results that agreement is reached with no little difficulty. While this should not obtain, every laboratory worker finds by the constant use of a certain technic, that a little change here and there in the application of a given test or method will materially change results, and these marked deviations from the point of uniformity cause consequent difference of opinion.

The usual procedure, using sodium nitroprusside as the reagent, is to take a small unmeasured portion of the sample in a test tube, add a few drops of glacial acetic acid, shake, throw in from the stock bottle (to avoid making fresh solutions) a few crystals of sodium nitroprusside, and then see that the crystals are completely dissolved. Ammonia water (some use potassium or sodium hydroxide) is then added by contact, and the development of color is awaited. If a purple color ensues, acetone is presumed to be present. This, in short, is the Lange modification of the Legal test.

It has been observed that most of the difficulties of this procedure arise from the omission; the variation in strength and quantities; or the order, time and manner of adding one or more or all of the reagents used in the test. It can also be readily seen that the above procedure, as followed out in busy laboratories, is exceedingly crude, but cannot fail to produce a variety of results, for, bear in mind, sodium nitroprusside is a very delicate reagent. It may be seen, therefore, that the inaccuracies of the test are more in its application than in the test itself.

Having had considerable experience with this test for acetone in all kinds of pathological specimens, and appreciating its value, if properly handled, it was thought advisable to undertake an investigation as to the various causes of the discordant results obtained, and then to devise some means whereby the errors could be averted.

Aside from the need of an improved and uniform technic, other disturbing factors were found to exist, and study of these factors has resulted in their elimination in both method and reagent, as submitted below.

Sodium nitroprusside is the best reagent for acetone, not that it is cheap, but because its extreme sensitiveness makes it applicable to specimens direct, without much annoyance, thereby doing away with the tedious procedure of distillation, which other reagents require in order to get results with any degree of reliability.

While the nitroprusside is conceded to be the best reagent in general use at the present time, and while the Lange modification is the best form of application, it must be borne in mind that the test has not as yet reached a point of entire satisfaction, for it is still, as we shall learn later on, open to further improvement, since there are frequently side reactions giving confusing results. This is due not only to the reagent itself, but largely to disturbing elements occasionally present in normal and abnormal specimens.

Among some of the conditions that are liable to interfere with the production of a satisfactory "burgundy red" color reaction are the following:

The condition of the specimen such as its alkalinity, due to decomposition or alteration in transit or its hyper-acidity. In the first case, acetic acid is used to restore as near as possible the original reaction, while ammonia is used in the latter instance. This often leads to false coloration if the acid or alkali is added in excess. On the other hand, neglect to neutralize will cause a negative reaction, even when acetone is present in excess. Owing to the delicacy of the reagent, creatinin will at times produce a similar color reaction when acetone is absent. This is one of the more important fallacies that must be guarded against. Alcohol, chloroform and some aldehydes used as preservatives will also cause false and misleading colorations. Paracresol, and many other common coal tar synthetics are liable to confuse the eye as to the true color by reason of their power to mask the tint by side reactions. Phenolsulphonephthalein used in testing renal action, and phenolphthalein are both capable of producing false color that may cause erroneous deductions.

Sodium nitroprusside is a very delicate reagent for acetone, hence it can be used in sparing amounts with just as good a result as in large amounts. By the careless handling of the crystals when added to the specimen in the test tube, after solution has taken place, and the remainder of the test applied, a color is sometimes produced which is very often mistaken for an acetone coloration when that chemical is not present. While it is comparatively a cheap reagent, it becomes expensive when used in quantities beyond the needs of the reaction, besides frequently impairing the reaction when used too lavishly. In former years I made use of the powdered crystals, adding only an amount that would remain

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on the end of a knife blade. Others prefer to use a five or ten per cent solution in water. In the first case, waste is not entirely eliminated, and "the end of a knife blade" is a very elastic term, while in the second case there is waste again, since solutions of this nature slowly deteriorate and eventually become worthless. This decomposition of nitroprusside solutions explains many of the observed discrepancies, since the reagent fails to act properly when such change has taken place. If one wishes to perform the test as outlined above, and still be sure of the results, a definite technic should be established, and the salt should be used only in exact amount, but since the amount actually necessary for the reaction is so small, weighed amounts would be impracticable, hence to avoid all difficulty from an improper procedure, it seemed that a stable solution of the nitroprusside was the only alternative in sight. Therefore the main object was to secure:

1. A more uniform and exact technic, or an orderly arrangement of the additions of the elements necessary to the completion of the test.
2. A standard recipe for a uniform reagent, so as to avoid the addition of various substances at different times.
3. To produce a reasonably stable reagent in solution and one that could be used expeditiously.
4. To make the reagent so sensitive to acetone that it would give immediate coloration regardless of amounts present.
5. To avoid the use of glacial acetic acid as a needless addition.
6. To lessen the cost of materials by determining the least amount of nitroprusside necessary to produce a reliable color.
7. To avoid false and misleading reactions from disturbing elements contained in and common to most specimens of urine.
8. To avoid the use of distillates or preliminary treatment of specimens, and to so formulate the test that the reagent could be directly applied.
9. To devise a method that would be equally efficient with old, fresh or recently decomposed specimens without treatment prior to testing.
10. To adapt it to the use of quantitative estimations by colorimetric comparison.

In the recipe and method of application which follows, most if not all of the above points have been fully realized. The colorimetric test, however, is left for further work, which is now under way and which will be reported on later.

By using the data here proposed favorable results have been obtained with a large number of samples examined when other methods have been found useless. This was particularly true with old or decomposed specimens. These have to be neutralized with an acid, and for this purpose a 20 per cent solution of sulphuric acid has been found superior to acetic acid, the former having little or no action on proteids. It is preferable to test freshly voided specimens in order to approach conditions as they actually existed at the time the urine was passed; for as will be seen later on, acetone is an elusive substance. The following is the recipe of the acetone reagent and the method of employment: Ammonium nitrate (crystals), 30 grammes; sodium nitroprusside (crystals), 2 grammes; distilled water, enough to make 80 c.c. (mils). Mix in the order given, dissolve and keep in well corked vessels away from direct sunlight.

Application. To 5 c.c. (mils) of urine in a test tube add 0.5 to 1.0 c.c. (mil) of the above reagent (containing from 3-10 to 6-10 grains of the nitroprusside), mix, then carefully add by contact, 3 c.c. (mils) of a 10 per cent solution of ammonium hydroxide.

If acetone is present, there is immediately produced at the zone of contact, a purple or "burgundy red" color. The term "burgundy red" describes the color better than any other term, because it is a color peculiar to itself.

The color diffuses mostly upwards into the ammonia stratum or standing, and its depth of color is in proportion to the amount of acetone present.

With small amounts of acetone the color is at first a deep rose pink, soon changing to a purple or violet. In the use of the contact method, the mixture is allowed to remain for about 1 to 5 minutes before observing, and when the two solutions blend there appears a coloration of the entire fluid, with a gradual deepening of color. If it is allowed to stand for 5 to 10 minutes longer the color will have developed to its greatest intensity. After 15 to 20 minutes the color slowly fades away, so that within one hour it is almost discharged. The following confirmatory tests are of interest:

If about 3 to 4 c. c. (mils) of the highly colored solution is carefully warmed in a test tube until the purple color is discharged, a yellow colored solution remains; the original color can be slowly restored by cooling, adding an equal amount of water and vigorously agitating. This procedure causes the absorption of oxygen from the atmosphere. On standing for about five minutes the color that is produced in this manner cannot be distinguished from the one originally produced, unless close com-

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parison be made with a control. If one part of the solution in which a fairly strong color reaction has taken place is added to 40 or 50 parts of water, the "burgundy" color will still be plainly perceptible. Even in a dilution of 1 in 200 the color is plainly seen in a Nessler tube. Five c.c. (mils) of a 1 in 800 dilution of commercial acetone in water gave a very distinct reaction on standing for about 15 minutes.

The above formula makes a solution that keeps indefinitely, and is not interfered with by excessive amounts of glucose, albumin, indican or creatinin, as is liable to take place with other modifications. The action of the ammonium salt in the test is that of a stabilizer and catalyzer, that is, it prevents decomposition of the nitroprusside while in solution with water; assists in avoiding false side-reactions; and enhances the sensitiveness of the reagent.

During the course of these experiments it was found that a 20 per cent solution of sulphuric acid in water was just as efficient as was glacial acetic acid. Phosphoric acid is better than glacial acetic acid in the test, especially for the acidification of altered specimens, prior to testing.

While we are to understand that the addition of acetic acid is a necessity with the newer methods as given in our text-books, it was found, however, that it was not required to get satisfactory results when using the improved method as here submitted, since under all conditions the new method will not fail to give a reliable and characteristic "burgundy" color when detectable amounts of acetone are present.

In order to prove that acetone slowly decomposes in urine, the following data are given: A preserved specimen of urine was examined when received, on August 14th, with the following results: Clear, aromatic, slight sediment, acid reaction; specific gravity, 1.039; urea 8-10 per cent; glucose, 7.8 per cent; acetone—very strong reaction; diacetic acid present; oxybutyric acid absent.

On September 16th, it was found that while there were only slight differences in the reaction and specific gravity, and the tests for acetone and diacetic acid gave negative results. In short, an undecomposed specimen lost its power to produce an acetone reaction within four weeks, despite the fact that when originally tested it gave a decidedly strong "burgundy" color. By periodical testing, it was noticed that there was a daily lessening of color from week to week, up to the fourth week, when the reaction was no longer obtainable.

The conclusions reached on the work done thus far are: First: Sodium nitroprusside reagent in its new and improved form is far better for all tests for acetone in pathological specimens than when applied the old way. Second: the precise technic as given above insures a greater uniformity in results than was possible heretofore. Third: the new method by reason of its improved sensitiveness and of the permanency of the testing solution is not only more economical, but much more expeditious than the old method.

The Vaccinotherapy and Serotherapy of Gonorrhea and of its Complications, with Special Reference to the Vaccine of Nicolle and Blaizot.—(By J. Tanton and M. Grenier, Revue Clinique d'Urologie, July, 1914; Amer. Jour. of Urology, Mar., 1915.)—Serotherapy may be of four kinds: specific, paraspecific, paradoxical, and autoserotherapeutic.

1. Specific serotherapy consists in the use of sera prepared from the gonococcus. The authors discuss in some detail the sera of Rogers and Torrey, of Parke and Davis, of the serotherapeutic institute of Milan, of Debre and Paraf. They conclude: (a) that a sufficient dose of any of these sera is 10 c.c.; (b) these sera have no real contraindications, their only inconvenience being an occasional anaphylactic phenomenon; (c) they have no, or practically no therapeutic action in acute or chronic urethritis; (d) on the other hand, they give more or less rapid results in epididymitis and in acute rheumatism; (e) the efficacy of the serum depends on how soon after the onset of the infection the injection is made.

2. Paraspecific serotherapy consists simply in the use of antimeningococcus serum. A study of this method of treatment shows: (a) that antimeningococcus serum is nontoxic in the complications of gonorrhea. The local reaction is slight, a general reaction is rare and mild, but a focal reaction is rather frequent. (b) The serum may give rise to anaphylactic phenomena, but these are avoidable. (c) Its therapeutic action is most marked in epididymitis and gonorrheal rheumatism. (d) Its action is less certain in the other complications and absolutely negative in urethritis. (e) Its harmlessness, ease of employment, and availability, indicate its systematic use in epididymitis and the articular complications of gonorrhea until the appearance of a truly specific gonococcus serum.

3. Paradoxical serotherapy calls for the use of sera which have not even a remote relation to the affection to be treated; e.g., antistreptococcic and antidiphtheritic sera.

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The latter has been used only in the ocular complications of the disease where it has caused relief of pain; the former has given its best results in gonorrheal rheumatism where it has caused some improvement, but no cures.

4. Autoserotherapy consists in the use of the patient's own serum. When the fluid employed is that of an effusion it is better to use the term autoplasmotherapy. The injection may be made subcutaneously or intravenously, in general it is painless and gives rise to no local reaction. This method of treatment seems capable of giving satisfactory results in cases of hydrarthrosis or pyarthrosis which heal slowly and end in ankylosis.

Unheated Vaccines.—(Arthur J. Casselman, M. D., (Jour.A. M. A., Jan. 23, 1915.) —The purpose of this paper is to encourage the use of unheated vaccines.

The preparation of unheated vaccines, which have had their vegetative powers destroyed by members of the phenol group, has been suggested previously by others. Park and Williams say, "It has lately been suggested that instead of killing by heat the vaccine may be killed by adding, when made, 0.5 per cent carbolic acid, or 0.25 per cent cresol compound." This is the only reference I have found, relative to the use of unheated vaccines killed by members of the phenol group.

Crandon gives a summary of the literature on the use of killed and living vaccines, proving conclusively the great advantage of unheated over heated vaccines, as heating even to 60 C. destroys in a great measure their immunizing power.

Two years ago I decided against heating my vaccines, provided I could discover some method of destroying their vegetative powers with less change in their chemical composition than is induced by heat. My choice of germicides finally narrowed down to two; the ultraviolet ray and the phenol group. As yet I have not used the ultraviolet ray. A good method of killing most bacteria I found to be their immersion for twenty-four hours in 0.25 per cent tricresol solution at 37 C.

Technic.—The only liquid used is 0.25 per cent tricresol in previously sterilized physiologic saline solution. All materials coming in contact with the vaccine, during or after preparation should have been sterilized in advance. The culture medium to be preferred is a 2 per cent glucose, 6 per cent glycero-blood-agar, neutral to—1 to phenolphthalein. It is sometimes of advantage to run a soft blood medium over a substratum of a more solid medium.

The bacteria are removed from the surface of the culture medium by means of glass rods drawn thin in the Bunsen flame to give them flexibility. The ends of the rods are made sufficiently thick to prevent penetration of the medium. A few drops of the tricresol solution are placed on the surface of the culture and the growth can easily be removed with the aid of these rods, even from a fairly soft medium.

The vaccine is then well emulsified by shaking in a test-tube or flask with beads or broken glass. The emulsion is filtered through sterile paper to remove clumps of bacteria. Sufficient tricresol saline solution is added to bring the minimal dose to 0.05 to 0.1 c.c.

After twenty-four hours in the incubator, the suspension is tested for sterility by inoculating a loopful into a tube of bouillon, a loopful of which is run over each of a number of sterile slants of the medium used in the primary culture. Twenty-four hours in the incubator has been used as the limit of the test for sterility. Objections may be raised against my practice of dividing the vaccine in a number of ampules, before placing in the incubator for twenty-four hours to sterilize, but I consider none of them valid.

Administration.—For injection, a 1 to 2 c.c. all glass syringe with platinum-iridium needle will be found economical, as this apparatus may be sterilized without injury by moist or dry heat. A convenient arrangement is to draw out, at the closed end, a moderately heavily walled test tube in which the syringe may be placed, so that the constriction will prevent the point of the needle from reaching the tip of the tube. If the vaccine is to be given at some distant place, this apparatus should be slipped inside a large tube previous to sterilization. If sterilized by dry heat, a number of these syringes may be kept on hand indefinitely, ready for use.

A method of determining the proper dosage, which is of value in many cases, is to introduce the minimal dose intracutaneously and double the dose daily, until a fairly severe local reaction is obtained, then to give that amount every four or five days. No definite rule of therapeusis can be laid down; experience is necessary for best results. Probably the intravenous route will be found preferable, both as to rapidity and degree of immunity. At present, insufficient work has been done on the subject to justify the intravenous injection of vaccine as a routine procedure.

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Experimental.—I used an insufficient number of heated vaccines along with the unheated in similar cases to prove definitely the great advantage of the latter; proof of an established fact is unnecessary. But it must be proved that the vegetative power is removed from the bacteria by the action of 0.25 per cent tricresol for twenty-four hours at 37 C. At least a thousand different vaccines of each micro-organism should be prepared by this method and every one proved sterile. Then perhaps the sterility might be relied on without testing. In the cases in which I have followed the above technic implicitly, the results have usually been better than anticipated. I am still looking for one of the non-spore bearing pathogenic bacteria which will stand 0.25 per cent tricresol for twenty-four hours at 37 C. without losing its powers of reproduction. I have not experimented with the fungi, but am now experimenting with the tubercle bacillus along these lines. An unheated tuberculin similarly prepared may possibly give the same good immunizing results obtained by the use of living virulent tubercle bacilli by Trudeau, Neufield, Webb, Williams and Barber, Theobald Smith and others.

The above amounts of members of the phenol group do not interfere with such a delicate immunity reaction as complement fixation and probably have little or no influence on such reactions in vivo. This method of removal of vegetative powers might also be applied to sensitized vaccines.

Conclusion.—Vaccines should not be heated above 37 C. but their vegetative powers should be destroyed by some method which does not change their immunity reactions from those of living bacteria. A method which is apparently successful with most micro-organisms is the use for this purpose of 0.25 per cent tricresol solution for twenty-four hours at 37 C. Probably any member of the phenol group in the same bactericidal concentration would be satisfactory.

Practical Considerations of Blood Cultures.—(By William Lintz, M. D., N. Y. State Journal of Medicine, Mar., 1915.)—While it is perfectly true that the usefulness of blood culture is limited to infectious diseases and their complications, it is equally true that it is just these types of cases that form the major part of the work of the general practitioner, pediatrician and surgeon, and not infrequently of the obstetrician. They are only too often cases that are extremely difficult and occasionally impossible to diagnose by any other means. It is therefore a subject which is not only of interest to the bacteriologist and to the laboratory worker, but is of vital importance and of direct interest to physicians engaged in all branches of medical work. Positive blood cultures absolutely clinch the diagnosis as but very few other single procedures do.

In many of the infectious diseases the study of the bacteriology of the blood has not only given us a method of establishing the earliest possible diagnosis, but it has revolutioned their pathogenesis; and it has scientifically explained their relapses. In not a few instances by the aid of the blood culture we are able to prognosticate with almost mathematical accuracy.

How Do Bacteria Reach the Circulation?—They reach the blood in one of three ways:

(1) There is an active ingrowth of bacteria through the blood vessel wall and into the lumen. An example of this is when a tuberculous lymph node ruptures into the lumen of a blood vessel and the tubercle bacilli are disseminated throughout the circulation, producing a general miliary tuberculosis. This method of the pathogenesis of a septicemia is comparatively infrequent. The passive methods are the usual ones; namely (2) septicemia produced by bacterial absorption and that produced by (3) mechanical pressure of bacteria into the lymph spaces. When from an infected focus, of recent or old origin and established somewhere in the body, bacteria are absorbed by means of the lymph stream or capillaries and ultimately reach the general circulation, they may here produce a transient bacteremia or a fatal septicemia. Furthermore, bacteria may reach the circulation as a result of an operation upon an infected focus or as a result of an external injury. In either case the bacteria are mechanically pressed into the capillaries or lymph spaces and set up a septicemia or a transient bacteremia.

The most important local cause is the retention of the decomposing fluids in the wound leading to an amount of pressure which helps the entrance of the organisms into the blood or lymph stream.

Bacteria may grow in the course of the circulation and thus be mechanically swept into it. As when bacteria, growing and multiplying in the lymph nodes, are swept into the general circulation during the course of typhoid fever, or when streptococci are mechanically swept off by the blood stream from an infected heart valve, the endocarditis having been caused perhaps some time ago by a streptococcus sore throat. Finally bacteria may be brought

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into the blood stream by means of leucocytes.

Prognosis of Positive Blood Cultures.—In the light of advancing knowledge and improved technique our conception of the prognosis of positive blood cultures must be materially modified. Whereas but a short time ago the demonstration of bacteria in the blood was equivalent to a death certificate, we now know that there is hardly an infection, no matter how slight and localized, but what at some time during its course bacteria were demonstrable in the general circulation.

Schottmuller was among the first to conclusively demonstrate in the blood anaerobic streptococci, in women suffering from putrid abortions, and who clinically ran a very mild course.

That in reality there are more bacteria present in the blood than we are able to demonstrate is evidenced by the fact that as we improve our methods our results also improve. As for instance the number of positive blood cultures has greatly increased in typhoid fever since bile has been added to our media, in putrid abortions by the employment of anaerobic methods, and in tuberculosis by the experience of Rosenberg, Liebermeister and Schnitter.

No uniform prognosis can be given in positive blood cultures which would cover every case. Not only does much depend in general upon the virulence of the bacteria and the resistance of the patient, but also upon the disease the patient is suffering from, whether the primary focus of infection is removed, the number of bacteria in the blood, during what stage of the disease they are found, and numerous factors. Some diseases are always associated with bacteria in the blood and the prognosis is that of the disease itself, irrespective of the positive blood culture. Such diseases are typhoid fever, pneumonia, etc. It will therefore be most advisable to consider the prognosis in each disease more fully under its separate micro-organism.

We can obtain a clear conception as to what occurs in septicemia by means of animal experimentation, and then perhaps apply the results to human pathology. Bull and numerous other worker have conclusively proven (Method for estimating bacteria in circulating blood in rabbits. C. G. Bull. Jour., Experimental Med., Sept. XX, No. 3, 1914) that when rabbits are injected intravenously with a quantity of virulent streptococci or pneumococci sufficient to cause death within two to four days the septicemia takes a definite course with slight variations. The bacteria rapidly decrease in number from the time of the injection to from two to four hours, at which time the blood is sterile or contains only a few bacteria. Within five to six hours the bacteria reappear in the blood and steadily increase until the death of the animal. If the bacteria are less virulent, the same quantity of culture causes a chronic type of infection. The same initial decrease in the number of bacteria occurs. The re-entrance into the blood is somewhat delayed, the septicemia does not reach the height obtained in the acute cases, and a second fall occurs within the course of a few hours. These rabbits show a low blood-invasion or a sterile blood culture for several days. During this time they become emaciated to a marked degree. Then the low septicemia rapidly rises or the rabbit with a sterile culture develops a severe septicemia within a few hours and death takes place from a few hours to two days thereafter. In this type of infection local lesions, pericarditis, pleurisy, peritonitis, etc., are usually found. In the infections which run an acute course no gross lesions are found.

If the bacteria are still less virulent they never re-enter the blood after the initial disappearace, and the rabbits remain in good condition. Variations in the natural resistance of individual animals may be sufficient to cause quite marked irregularities in the course of the infection. Pneumococci can be standardized so as to produce a particular type of infection more easily than streptococci. In general infections such as those produced by streptococci and pneumococci the number of the bacteria present in the circulating blood at a given time supplies accurate and delicate information regarding the severity of the disease.

A large number of bacteria found in the blood and tissues at autopsy do not necessarily prove the existence of a heavy infection before the onset of the death agony, since it is a well-known fact that bacteria multiply with enormous rapidity, once the natural resistance of the animal has been overcome. Again, the individual animals of the same species, age and apparently of identical physical condition react to the aggressive force of the infecting organisms variously. This fact is readily found out by the injection of a series of rabbits with lethal quantities of bacteria per body-weight, and by making tests at various periods before death results, which, in the case of streptococci, ranges from one to six days.

Furthermore, from the animal experimentation of Schimmelbuschs & Ricker (Fortschritte der Medizin, 1895, Bd. 13),

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Noetzel's (Arch. f. klin. Chir. LX, 1899, and LXXX und Fortschritte der Medizin 1898 Bd. 16; Beitraege zur klinischen Chirurgie LIV, S. 458), Peiser (Beitraege zur klinischen Chirurgie XLV und LI), and others, we can fairly well differentiate those cases with positive blood cultures which are prognostically favorable from those which are almost uniformly fatal.

Experiments on animals have conclusively demonstrated that in practically every infection resulting from wounds, peritonitis, etc., bacteria are absorbed into the circulating stream. The absorption of bacteria into the circulation may be termed the primary absorption and takes place rapidly and immediately from 10 minutes to one hour after the establishment of the infection. Experimentally this is followed later on by a secondary or chronic absorption of bacteria into the circulation. While it is easy to demonstrate bacteria in large numbers in the blood during the primary stage, it is difficult to obtain bacteria during the secondary or chronic stage; and when occasionally successful the bacteria are in small and diminishing numbers, as they are continuously being destroyed by the bactericidal power of the blood. Not only are highly pathogenic bacteria absorbed, but even those which are less so, and hence may produce a transient bacteremia.

Exactly the same results are obtained in the human being. As a rule, by the time the patient comes under our observation, the primary stage of bactericidal absorption has passed; and, even if we should happen to culture the blood during the primary stage, positive findings in the human being would be a mere accident. For the initial number of bacteria causing the average infections in man is but very small.

As we generally culture the blood only during the "chronic or secondary stage of absorption," therefore our results are quite frequently negative in cases where bacteria has not only been present previous to the time of culture but even during the time of culture; for as a rule the body is quite capable of destroying and eliminating bacteria when present in a moderate number. It is only when the resistance of the body falls or the virulence of the bacteria rises; i.e., by increasing in pathogenicity that it becomes possible for bacteria to multiply in the blood. When this occurs, then in spite of our comparatively crude methods, bacteria become demonstrable in the circulation. In the primary or acute stage of bacterial absorption, then, we have a simple bacteremia, which is readily demonstrable; in the chronic stage on the other hand bacteria can be demonstrated in the circulation only when the bacteremia changes into a septicemia.

To realize this fact is exceedingly important for only then can we differentiate between the acute and primary stage of bacterial absorption which as a rule establishes only a transient and harmless bacteremia—from the chronic and secondary stage of bacterial absorption, which when demonstrated usually means a grave septicemia of decidedly bad prognostic omen.

One can readily demonstrate numerous bacteria in the blood immediately after an operation upon an infected focus, in cases where the blood is sterile prior to the operation. These patients, as a rule, recover, although the bacteria may be in large numbers and not infrequently of high virulence. I have repeatedly obtained hemolytic streptococci from the blood of patients immediately after a curettage for septic abortion, and the staphylococcus pyogenes aureus immediately after an operation for necrosed bone. And yet, these patients get well without any difficulty. An explanation for this can be readily found. The bacteria reach the circulation in large numbers, as a result of being merely mechanically pressed from the infected focus into the lymph spaces and capillaries during the operation. They are there only during the primary absorption stage, and the blood by means of its bactericidal power, soon rids itself of all the bacteria, and the blood becomes once more sterile. The outlook and the course of the disease are quite different should you find bacteria in the above mentioned cases several hours or days after the operation. This no longer indicates a mere bacteremia resulting from the primary absorption of the infected focus, but a serious septicemia, the bacteria having gained the upper hand. In other words, while a post-operative primary bacteremia is of no particular significance in a patient with good resistance, in a debilitated patient with poor resistance this harmless bacteremia may turn any moment into a grave septicemia. Such cases are not by any means infrequent, and everything should be resorted to, if possible, to avoid a primary bacteremia. Peiser (Beitraege zur klin. Chir. Bd. Li, 3, 686) has conclusively demonstrated that in fatal cases of septicemia resulting from peritonitis the same explanation holds good. That as from every other infected focus, the bacteria are absorbed in the circulation from the infected peritoneum during the primary absorption stage, the resistance of the patient, however, is so low that he is unable to check

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the growth and multiplication of the bacteria in the blood, which leads to a fatal sepsis.

An entirely different interpretation must be placed when bacteria are isolated in the blood stream, and which arise from an infected focus located in the course of the circulation. Here we may repeatedly isolate the bacteria from the blood for weeks and even months without necessarily interpreting it as an index that the virulence of the bacteria is greater and therefore has overcome the resistance of the patient. We can best illustrate this point by considering the subjects of endocarditis and thrombophlebitis.

Infectious endocarditis characterized by marked general signs and symptoms of sepsis and due to the various pathogenic bacteria, in such cases when bacteria are isolated from the blood stream, the interpretation of the septicemia is that of any other infection the bacteria are virulent and have overcome the resistance of the body. The prognosis is unusually bad on account of the anatomical location of the lesion (see Sachs-Zeitschr. fuer Geb. und Gyn. LXV, S. 161). On the other hand there are a large number of cases of endocarditis which run a very chronic course, and which are caused by the streptococcus viridans of Schottmueller, which as a rule can be readily demonstrated repeatedly in the blood, and yet the micro-organism has but very slight pathogenic properties for man (Lenharz—Die septischen Erkrankungen).

To explain this phenomenon we must consider the pathogenesis of endocarditis lenta and certain mechanical conditions.

According to Lenharz, septic endocarditis occurs in one-third of cases suffering from a previously damaged endocardium. All that is necessary here is that during the course of a septic sore throat, infected endometrium or some cryptogenic infection, etc., bacteria are at one time absorbed in the circulation. They locate themselves upon the heart valves for they find conditions for growth and multiplication more favorable than in the circulating blood stream. From the diseased endocardium they are merely mechanically swept off into the circulating blood stream by the blood current. It is evident that they need not multiply in the circulating blood in order to be demonstrable. In the interval, before the bacteria are destroyed by the bactericidal substance in the blood, they can as a rule be readily demonstrated bacteriologically. In endocarditis even the repeated demonstration of bacteria in the circulation for a considerable period of time is no sign that you are dealing with a highly virulent micro-organism which has overcome the resistance of the body; while in other conditions it usually is. The question which logically arises is, why does not the body completely rid itself of this micro-organism, since the defensive forces of the body are greater than the virulence of the bacteria? The explanation lies in the local anatomical conditions of the valves. On account of the lack or poor blood supply of the valves the bacteria are but little affected by the bactericidal substance in the blood and can here multiply undisturbed and produce a bacteremia by being mechanically swept off into the circulation. When the bacteria are once in the circulation, depending upon the degree of the resistance of the body, they are sooner or later destroyed by the bactericidal substances of the blood, which give rise to chills and fever. So long as the valvular tissues are once infected you may get a bacteremia following; the bacteria, however do not multiply in the blood but on the other hand, are readily destroyed. But should the bacteria actually begin to multiply in the circulation, then indeed you have a good index that the virulence of the germ is overcoming the resistance of the patient. This transition point from a bacteremia to a beginning septicemia is difficult to establish, although a pronounced septicemia is quite readily interpreted as such. When on repeated blood cultures the number of colonies per cubic centimeter of blood is perhaps slowly but progressively increasing and at the same time the subjective and objective findings of the patient become aggravated, then one is justified in assuming that the bacteremia has changed to a septicemia. On account of the prolonged toxemia as well as the anatomical location of the lesion this may happen in endocarditis lenta, although the usual termination is that of exhaustion.

What has been said of endocarditis holds good to any other lesion which has a similar anatomical location and a similar histologic structure.

Quite an analagous condition is found in infectious thrombophlebitis. The broken thrombi become loose in the circulatory stream and disseminate bacteria in the blood. The bactericidal power of the blood, however, usually destroys them so rapidly and completely that it is difficult to demonstrate the bacteria by means of the blood culture. It is only when the bacteria multiply in the blood that, as a rule, the blood cultures become positive. This is in accordance with the view of acute or primary

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and chronic absorption of bacteria as previously set forth. In contradistinction, however, to endocarditis lenta, bacteria which are capable of suppurating and loosening thrombi are as a rule very virulent. The loosening of infected thrombi and their mechanical dissemination of bacteria in the circulation harmonizes and well explains the clinical findings of positive blood cultures alternating with negative ones; for the bacteria keep on suddenly appearing and disappearing from the blood stream. Highly virulent bacteria emanating from an infected thrombus which have so lowered the resistance of the body as to establish a blood infection and multiply there, usually lead very rapidly to a fatal termination.

Should the primary focus have healed, either spontaneously or as a result of treatment, without establishing an endocarditis, thrombophlebitis, or other metastatic infections, it is evident that a positive blood culture means that the bacteria have multiplied in the blood. The prognosis is bad. It makes very little difference prognostically whether bacteria multiply in the large vessels or only in the capillaries; or, as some maintain, in the endothelium of certain organs.

As a result of the above considerations, one must bear in mind that in certain cases the demonstration of bacteria in the blood depends purely upon mechanical conditions. From a prognostic point of view, one must carefully differentiate under what conditions bacteria are demonstrated in the blood. The body as a rule in most instances readily destroys the bacteria which have purely mechanically been swept into the circulation or have reached the blood stream during the primary stage of absorption. In these cases the demonstration of bacteria in the circulation is no index of their pathogenicity. The outlook is quite different if bacteria are demonstrated in the circulation during the chronic stage of absorption. To demonstrate bacteria during this stage there must be an actual multiplication of bacteria in the circulating blood stream, which means that the virulence of the micro-organism is greater than the resistance of the patient. The prognosis is almost invariably bad.

The Mortality of the War.—According to the Avanti, a Roman newspaper, the total loss of men by all nations at war during the first eight months numbers 5,950,000. The amount of money spent during the first six months is estimated at $8,400,000,000.

THE MEDICAL FORTNIGHTLY
and LABORATORY NEWS

A Cosmopolitan Magazine for the General Practitioner Issued on the Fifteenth of Every Month.

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MEDICAL MISCELLANY

Phenolphthalein.—Phenol is practically out of the market with an excessive price ruling for such quantities as are available. Phthalic acid is under an embargo by both Germany and Austria, and, consequently, none will be available after present stocks are exhausted, until there is a change in the existing conditions. These conditions, coupled with an enormous demand, has driven the price of phenolphthalein to extremely high figures.

Our Daily Meals.—M. J. Bergonie discusses in the Comptes rendus the best arrangement of the human dietary on the basis of the observation that the period of maximum availability of the energy in the meals occurs about three hours after eating. He suggests that a diet furnishing 1 part fat, 1 part protein, and 4 to 5 parts of carbohydrates should be taken in three meals: viz., a heavy meal supplying from 1400 to 1500 calories about 7:30 a.m.; a light meal supplying 300 to 400 calories at 4:30 p.m.; and a dinner supplying 700 to 800 calories at 8:00 p.m. The Scientific American wonders whether the average man, and especially the average Frenchman, accustomed to a very light petit dejeuner, could adjust his appetite to so heavy a meal in the early morning.

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Belgian Red Cross Suppressed.—The branch of the Red Cross operating in the part of Belgium under German control has been dissolved by the military governor of the country, its work being taken over by the Germans under Count Hatzfeldt-Trachenberg.

Reappearance of an Old Friend.—After a silence of eight months the Progres Medical of Paris has resumed publication, the first issue being dated August, 1914—March, 1915. For the present the journal will appear as a monthly, the weekly publication being deferred until tranquility is re-established.

Urologists Elect.—At the fourteenth annual meeting of the American Urological Association held in Baltimore, April 13-15, St. Louis was determined on as the next place of meeting and the following officers were elected: president, Dr. Edward L. Keyes, Jr., New York City; vice-president, Dr. E. Otis Smith, Cincinnati; secretary, Dr. Henry L. Stanford, Cleveland, and treasurer, Dr. James A. Gardner, Buffalo, N. Y. (re-elected).

Russia Appeals for More Physicians.—According to a communication in the Frankfurter Zeitung, the president of the Russian Red Cross has telegraphed to the presidents of the Swedish and Norwegian Red Cross asking whether they could not send physicians to Petrograd to serve in the military hospitals. The replies stated that no army or navy medical officers could be detailed for the purpose. A German exchange states further that all Russian physicians now serving under the Red Cross outside of Russia have been summoned home.

Iodized Carbon in the Treatment of Infected Wounds.—An apparently effective method of employing iodine as a surgical dressing has been devised by L. Lemaire (Presse Medicale, February 18, 1915). This method consists in the use of a true solid solution of iodine in animal charcoal. In 1857 Warington discovered that if animal charcoal is mixed with iodine, the latter enters into a peculiar physical combination with the former. The phenomenon is one of absorption, in which there is a condensation of the iodine on the surface of the carbon molecules with the result that both substances acquire new physical and chemical properties. Lemaire used an iodized carbon containing ten per cent by weight of iodine. This was dusted upon infected wounds in the same manner as surgical powders are ordinarily used. The results are said to have been excellent. The antiseptic action of the iodine in its altered state was supplemented by the absorptive property of the carbon, a property that has long been recognized. One advantage over tincture of iodine is the fact that iodized carbon releases its iodine quite slowly and is therefore devoid of any caustic action.

The origin of the phrase, "Mind your P's and Q's," is said to have been a call of attention in the old English alehouses to the pints and quarts being scored down to the unconscious or reckless beer-bibber.

Typhus in Servia.—Typhus has become so prevalent in Servia that it is threatening the whole nation, and some American doctors and nurses in the Red Cross service are reported to have died from the disease. The doctors there have not had the facilities to fight the disease. The troops have no change of clothing and the very earth in some places is inhabited by the insects that spread the malady. One doctor reports that in places quite large districts of country will have to be burned over before it can be eradicated. All this has been brought about by the war. It may yet prove a calamity to a large part of the world. The national health service is doing everything possible to keep it out of this country and will probably succeed.

Clinical Congress of Surgeons of North America.—The sixth annual meeting of this congress will be held in Boston, October 25 to 30, 1915. Plans for the session are well under way and a preliminary schedule has been prepared of operative clinics and demonstrations to be given in the hospitals and medical schools of Boston during the week. It has been decided to limit the attendance to a number that can be comfortably cared for, and advance registration will therefore be required. A detailed announcement of the plans for the Boston session will be sent shortly to all members of the congress and to surgeons who have attended previous meetings. Cards will then be issued in order of application up to the limit named by the committee. Dr. F. B. Lund is chairman and Dr. Lincoln Davis secretary of the committee on arrangements. The officers of the congress are Dr. John B. Murphy, president; Dr. Charles H. Mayo, president-elect; Dr. George E. Armstrong, vice-president; Dr. Herbert A. Bruce, first vice-president-elect; Dr. R. L. Rickinson, second vice-president-elect; Dr. Allan B. Kanavel, treasurer; Dr. Franklin H. Martin, secretary-general; Mr. A. D. Ballou, general manager.

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Between Doctors.—"What did you talk about at the last medical meeting?"

"Nitrates."

"Well, they ought to be higher. It's worth something to leave a warm bed.—Washington Herald.

Knowledge Relating to the Deaf.—Anyone interested in a little deaf child can obtain free literature explaining approved methods of training deaf children from infancy to school age by writing to The Volta Bureau for the Increase and Diffusion of Knowledge Relating to the Deaf, 1601 Thirty-fifth street, N. W., Washington, D.C. This literature relates only to the training of little deaf children; not to medical treatment nor to the deafness that comes in later life. Age of child and other details are welcomed.

Medical Value of Eucalyptus.—Dr. Paul Boyce says: "A case of ague and fever, which had been treated with quinia, arsenic, etc., was cured in four days by simply taking the essence of eucalyptus (prepared from the oil, by using alcohol, the same as essence of peppermint is made), two drachms three times a day. I believe we possess in the separate eucalyptus a remedy not inferior to the cinchona alkaloids. The oil applied to the nerve of a tooth destroys its sensitiveness and quiets the pain. In purulent catarrhal affections of the urethra, it acts like a charm."

"Family Entrance" Closed.—Last summer a survey was made of conditions demoralizing to women and girls in the saloons of Chicago, and as a result of the publicity following this survey, the city council passed an ordinance forbidding the use of such signs as "Family Entrance," "Ladies' Entrance," "Private Entrance," or any other designation intended to indicate that such entrance is intended for the use of women. The woman who made the investigation found that the back rooms with special entrances were largely responsible for the downfall of girls and young women.

A Potent Pediculicide.—At a meeting of the Vienna Medical Society on March 14 Prof Sigmund Fraenkel announced that he had accidentally discovered in anisol a substance which would absolutely kill the body louse which is the carrier of the typhus germ. He was experimenting with oil of anise, which seemed to have some effect, and wrote to his laboratory "diener" to send him another bottle. The servant misread the order and sent anisol instead of oil of anise (anise-ol), and Professor Fraenkel was astonished to find that he had stumbled upon a certain destroyer of the insect.

Such Extravagance.—Farmer Barnes—"I've bought a barometer, Hannah; ter tell when it's goin' ter rain, ye know!"

Mrs. Barnes—"To tell when it's goin' ter rain! Why, I never heerd o' such extravagance! What do ye s'pose th' good Lord hez give ye th' rheumatiz fer?"

Effeminate Method.—Mr. and Mrs. Hudson were having a discussion one evening over Mr. Morris, a friend of the family.

"I don't see," said Mrs. Hudson, "how you can say that Mr. Morris has an effeminate way of talking. He has a very loud and masculine voice."

"I mean by an effeminate way of talking, my dear," responded the husband, "that he talks all the time."—National Monthly.

The Detection of Pulmonary Tuberculosis in Public School Teachers.—In co-operation with the city superintendent of schools, the Department of Health of the City of New York has devised a plan by which teachers suspected of tuberculosis will be examined by physicians of the department. The city superintendent of schools has approved the draft of a letter to be addressed to school principals, requesting them to report teachers who are in such physical condition as to be unable properly to do their work, and whom there is reason to regard as probable subjects of pulmonary disease. When such cases are reported, the department will arrange for medical examinations by diagnosticians trained in the detection of pulmonary disease. A woman physician will be detailed to examine the women teachers, if they request it. The time and place of the examination will depend upon the numbers to be examined, the location of the school, and of the residence of the teachers concerned. This new activity of the department of health has the double purpose of detecting incipient cases of tuberculosis in teachers and encouraging appropriate treatment; and of protecting susceptible children from undue exposure to unrecognized and therefore unregulated advanced cases.

The Wassermann Reaction.—While the Wassermann reaction is considered by many physicians an absolutely accurate test for syphilis, E. L. Keyes, Jr., New York (Jour. A.M.A., March 6, 1915), finds some reasons to doubt its being an altogether sufficient index, and says he does not feel justified in diagnosing syphilis by this test alone. This conclusion or lack of conclusion, he says, is unsatisfactory, but it seems to be justified by the following facts: In the first place the Wassermann reaction is per-

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formed in many ways, and all of them give accurate results in the majority of cases, but no two of them exactly agree. All of them give a certain small percentage of positive with patients who have no history and represent no symptoms of syphilis; its findings vary inexplicably in certain cases from those of the luetin test and the lymphocyte count, the globulin test, and the Wassermann test of the cerebrospinal fluid. In the third case the reaction is known to be positive in certain other diseases, and with certain technics higher than with others. Whatever the technic employed, the use of alcohol by the patient may render the blood negative, and the presence of acidosis in a non-syphilitic makes the blood positive as has been demonstrated by Richards. Only recently he had an experience with forty patients of a tuberculosis hospital in whom the Wassermann reaction had been reported positive. Thirty of these showed certain positive or clinical evidence of the disease. Ten of them failed to show syphilis; the blood was then again examined, both in the same laboratory and in another. Those in the same laboratory reported them all with positive reaction, while that of the other was quite different, and the worker, who obtained only one positive out of the ten, was not willing to assert that to be reliable. Such differences must be settled, Keyes says, by the collaboration of skilled clinicians and skilled laboratory workers on a large series of normal individuals as well as syphilitics. As regards the cure of syphilis, Keyes is dubious as to the value of a negative Wassermann, and his general conclusions as to the subject are given as follows: 1. A negative Wassermann is not sufficient evidence of the cure or absence of syphilis. 2. A positive Wassermann, unsupported by clinical evidence, is not sufficient evidence of the presence of syphilis. 3. A positive Wassermann does not prohibit matrimony. 4. A fixed, positive Wassermann in the later years of the disease does not inevitably point to the prospect of grave lesions. 5. A negative Wassermann after salvarsan, in the first year of the disease, does not mean that the patient is cured, or that lesions will not reappear before the reaction again becomes positive. 6. The return of chancre, glands, eruption and positive Wassermann reaction, a few months after control of the disease by salvarsan in its first few weeks does not prove reinfection.

The Use of Scopolamine in Obstetrics.—The American Journal of Obstetrics and Diseases of Women and Children for October, 1914, contains an article on this topic by Rongy which concludes as follows: 1. Standard solutions are absolutely essential for the success of this treatment. 2. No routine method of treatment should be adopted. Each patient should be individualized. 3. Facilities should be such that the patient is not unduly disturbed. 4. A nurse or physician must be in constant attendance. 5. This form of treatment is carried out in hospitals, although there is no reason why it cannot be accomplished in well-regulated private homes. 6. It does not affect the first stage of labor, but the second stage is somewhat prolonged. 7. Pain is markedly diminished in all cases, while amnesia is present in the greatest number of patients. 8. This treatment does not in any way interfere with any other therapeutic measures which may be deemed necessary for the termination of labor. 9. Fetal heart sounds must be carefully watched. Sudden slowing calls for immediate delivery when possible or the discontinuance of the treatment. 10. Oligopnea was present in 15.2 per cent of cases. However, normal respiration was very soon established and no ill effects were observed. 11. No change in the course of the puerperium was observed and convalescence progressed very smoothly in the entire series. Finally, judging from the writer's observations and experience, he feels that this method of treatment should be given a fair trial. It is only a varied experience by competent men that will tend to settle this extremely interesting subject. It is the duty of the medical profession to set the public right on this important question. For the writer's part he believes that this method of treatment robs the woman of the agonies of pain accompanying labor, and in addition instils within her a feeling of confidence which materially aids her to pass through this trying ordeal. We must approach this subject both from a medical and humane aspect. If pain can be relieved it is every physician's duty to do so, and no effort should be spared to accomplish it. The comparative safety with which the drug may be used in competent hands not only justifies but compels every obstetrician to give this form of treatment a fair test, and to convince himself as to its merits.—Therapeutic Gazette.

A GENTLE REMINDER.

How dear to our heart is the price of subscription,
When any subscriber presents it to view;
Of him who'll not pay us, we'll shrink from description,
Perchance, dear reader, that one may be you.

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POETRY

WANTED—A TWILIGHT SLEEP FOR POTES.

Stork scopolamin that comes in the gloaming,
Rare bird of the twilight sleep,
Couldn't I hire you, old scout, when I'm pomeing?
Parturient potes, giving birth to their verses—
Oh, how they wail and they weep,
Filling the air with their howlings and curses.

How grand it would be to go bye-bye, and waking,
Find a wonderful child of my brain
Cooing here on my desk and my forehead not acting!
Stork Scopolamin, please help the deserving!
Old bird have you thought of the pain
Of a Jove who's condemned to diurnal minerving?

—Judge.

THE WEB OF LIFE.

God gives us all a web of life,
And to each a pattern meant
For us alone to weave, then may
We work and be content,
No matter though the thread be rough,
The colors dimmed with tears,
Though woven blindly in the dark,
God watches through the years.

He knows each pattern, and to Him,
Though marred, it never seems
Too bad to ravel wholly out,
Because he knows our dreams.
And though we seem to badly fail
Our heart's dream to make true,
He'll see beneath the colors dim
The threads of gold shine through.

—Alice W. Gallaudet.

SIMPLICITY.

It was only a drop of dew
That watered the heart of a rose;
But the rose bloomed out her gracious span,
A thing of beauty and praise for man,
In her fragrant garden close.

It was only the song of a bird
By her nest in the spreading tree;
But the song that burst from the tiny breast
Dispelled the gloom of a heart oppressed,
And set new gladness free

It was only a tender thought
Of the Father's love and power;
But a heart with pain and woe oppressed
Through that loving thought found strength and rest,
And was healed that very hour.

LIFE'S AUTO-WAY.

Sometimes in this auto-life, a tire
Lets go when you're out in the rain and mud;
Sometimes when carefully dodging the mire
The wheels hit the curb with a splintering thud;
And then the blamed engine quits work with a groan.
The steering-rod bends or the gasoline ends
When you're more than a mile and a half from a 'phone—
Sometimes.

Sometimes the road is so terribly rough
That riding is one continual jar;
Sometimes we think we have enough
Of the joys and trials of owning a car;
But such is life on this mortal sphere.
We might as well grin, and crank up agin,
'Though it is easier to swear than it is to cheer—
Sometimes.

—M. D. Ailes, M. D.

LIST OF NATIONAL MEDICAL SOCIETIES

SOCIETY	SECRETARY	ANNUAL MEETING
AMERICAN MEDICAL ASSN.		
American	Alex. R. Craig, 535 N. Dearborn St., Chicago..	San Francisco, June 21-25.
Academy of Medicine	Charles McIntire, Easton, Pa.	San Francisco, June 25-28.
Assn. of Genito-Urinary Surg's	R. F. O'Neil, 379 Beacon St., Boston	Wh. Sul. Sprgs., W. Va., May 18-20.
Assn. of Path. and Bacteriologists	H. C. Ernst, Harvard Med. School, Boston	St. Louis, April.
Association of Railway Surgeons	Louis J. Mitchell, 29 E. Madison St., Chicago..	
Climatological and Clin. Assn	Guy Hinsdale, Hot Springs, Va.	San Francisco.
Dermatological Association	Oliver S. Ormsby, 25 E. Washington St., Chicago	New York, May.
Gastro-Enterological Association	F. W. White, 322 Marlborough St., Boston	Baltimore, April.
Gynecological Society	LeRoy Broun, 148 W. 77th St., New York	White Sulphur Springs, W. Va., May 18-20.
Laryn., Rhin. and Otol. Society	Thos. J. Harris, 104 E. 40th St., New York	
Medico-Psychological Association	Charles G. Wagner, Binghamton, N. Y.	Old Point Comfort, Va.
Neurological Association	Alfred R. Allen, 2013 Spruce St., Philadelphia..	
Ophthalmological Society	W. M. Sweet, 1205 Spruce St., Philadelphia	New London, Conn., July 6-7.
Pediatric Society	S. S. Adams, 1801 Conn. Ave., Wash., D. C.	Cape May, May 25-27.
Proctologic Society	A. J. Zobel, Shreve Bldg., San Francisco	San Francisco, June 20-21.
Public Health Association	Selskar M. Gunn, 755 Boylston St., Boston	Rochester.
Roentgen Ray Society	W. F. Manges, 264 S. 16th St., Philadelphia...	
Society of Amer. Bacteriologists	A. Parker Hitchens, Glenolden, Pa.	
Society of Tropical Medicine	John M. Swan, 457 Park Ave., Rochester, N. Y.	S. Francisco, June 14-16.
Surgical Association	Robt. G. LeConte, 1530 Locust St., Philadelphia	Rochester, Minn., June 9-11
Therapeutic Society	Lewis H. Taylor, The Cecil, Washington, D. C.	San Francisco.
Urological Association	Henry S. Sanford, Osborn Bldg., Cleveland	Baltimore.
Assn. of Military Surg's of the U. S.	S. C. Stanton, 535 N. Dearborn St., Chicago	Washington, D. C.
Med. Society of the Missouri Valley	Chas. Wood Fassett, St. Joseph, Mo.	Des Moines, Ia., Sept., 1915
Med. Association of the Southwest	Fred H. Clark, El Reno, Okla.	Oklahoma City, Oct., 1915
Mississippi Valley Medical Assn.	Henry Enos Tuley, 705 S. 3d St., Louisville, Ky.	Lexington, Ky., 1915.
National Assn. for Study of Pellagra	J. W. Babcock, Columbia, S. C.	
Nat. Assn. for S. and P. of Tuber	H. B. Jacobs, 11 Mt. Vernon Pl., Baltimore	Seattle, 1915.
Nat. Assn. for Study of Epilepsy	Arthur L. Shaw, Sonyea, N. Y.	Skillman, N. J., 1915.
Southern Medical Association	Seale Harris, Van Antwerp Bldg., Mobile, Ala.	Dallas, Tex., Nov. 8-11.
Southern Surg. and Gyn. Assn.	W. D. Haggard, Jr., 148 8th Av. N., Nashville	Cincinnati, 1915.
Western Surgical Association	Arthur T. Mann, Donaldson Bldg., Minneapolis	Des Moines, 1915.

Secretaries will please send us dates and corrections.

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MEDICAL MEMORANDA

On another page in this issue will be found the announcement of Martin H. Smith Co., with reference to glyco-heroin (Smith). This well-known and popular preparation will remain just as it always has, and no alteration in its composition will be made on account of the Harrison law. The manufacturers are determined to keep glyco-heroin (Smith) exclusively for physicians' prescriptions, rather than change its formula, and allow its sale to the public -a very commendable procedure, and one worthy of appreciation at the hands of the profession.

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Medical men who have been prescribing Hoff's malt extracts for many years are aware that the world wide reputation of "Johann Hoff" has not grown up in a day. In fact it is now sixty-seven years since this chemist originated the first nutritive extract of the grain and introduced to the profession a food that is practically a "solution of barley." Perhaps no tissue builder has won a more deserved reputation as a food-tonic before and after surgical procedures and as a galactagogue for nursing mothers. Combined with the peptonates of iron and manganese as "Hoff's malt with iron" it enjoys a high degree of medical favor in the treatment of all varieties of anemia, both primary and secondary. Eisner-Mendelson Co., New York, will supply literature on request.

Automobile Owners Receive Good News.—The greatest boon to the automobile owners has just been given them recently in the form of a tire constructed of double the thickness of such tires as Diamond, Goodyear, Firestone, and other standard makes. This added thickness in wearing surface makes the tires the best on the market to-day for real service as they are punctureproof and withstand great wear and hard service. Notwithstanding the many added features of these tires they are being sold now as an introductory offer at a price about 40 per cent lower than the regular price of standard tires. These tires bear a 7000 mile guarantee which is also double that of the regular made standard goods. These tires are being sold direct to the consumer by the Double Service Tire and Rubber Co. of Akron, Ohio.

Glyco-Thymoline for Colon Flushing.— Inactivity of the colon with its retention of fecal matter and consequent distention and interference with the work of the rectum is a prime factor in the causation of hemorrhoids, constipation and, in the event of septic matter in the feces, auto-infection. The rapid elimination of all septic matter, and the promotion of an aseptic condition of the intestinal canal is within the province of glyco-thymoline. One pint of a 10 per cent solution at a temperature of 100 deg. introduced well up into the colon will produce a quick evacuation without pain or discomfort. This followed by three or four ounces of a 25 per cent solution at the same temperature. retained, will speedily restore to normal conditions by inducing exosmosis, relieving pain by its anesthetic property and promoting a general aseptic condition by its power of cleansing.

Treatment of Persistent Inaccessible Hemorrhage.—Every physician feels the need occasionally of a reliable agent in persistent hemorrhage that is inaccessible to the ordinary modes of treatment. Coagulose meets that want—meets it better, it is believed, than any agent hitherto employed for the control of hemorrhage due to defective coagulation of the blood. Coagulose is prepared in the biological laboratories of Parke, Davis & Co., from normal horse serum. It is administered hypodermatically (subcutaneously.) The directions for preparing coagulose for use are as follows: Add to the powder in the bulb 6 to 8 cc. of sterile water, the temperature of which should not be above 98 degrees F. Introduce the water into the bulb through the needle of a 5-cc. syringe. The rubber stopper should then be replaced and the bulb immediately shaken, continuing the agitation three or four minutes or until the powder is completely dissolved. To fill the syringe, invert the bulb and remove the rubber stopper from its mouth. Insert the needle of the syringe into the solution in the inverted bulb and draw the fluid into the syringe. By inverting the bulb before inserting the needle, one avoids the likelihood of drawing the foam or bubbles (caused by agitating the liquid in the bulb) into the syringe, as the foam will rise to the top of the solution, leaving the field for the insertion of the needle perfectly clear.

The Neurasthenic Invalid.—Like the poor, the neurasthenic is "always with us," and while the stress and strain of modern life and living continue, the physician will be called upon to treat the more or less chronic invalid who exhibits all sorts of bizarre symptoms, in endless and kaleidoscopic variety. It is, of course, an easy matter to advise the physician to search out and remedy the operative cause of the disorder, but it is not always as easy to do this, especially when no organic changes are discoverable. While purely symptomatic treatment may be unscientific, it is usually essential, in order to gain and retain the confidence of the patient. There is, however, one pathologic finding in a large majority of cases, and that is anemia of greater or lesser degree. In some instances this may be found to be the essential cause of the neurotic symptoms. In any event, this condition should be corrected, and for such purpose there is no better remedy than pepto-mangan (Gude). When a hematinic is indicated for a nervous, cranky man, or a finicky, more or less hysterical woman, pepto-mangan is peculiarly serviceable, as the patient cannot consistently object to the taste, which is agreeable to every one. The digestion is not interfered with in the least, constipation is not induced, and the blood-constructing effect of the remedy is prompt and certain. It is always worthy of trial not only in the anemia of the neurasthenic invalid, but also in all conditions of blood and tissue devitalization.

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